MARINE REVIEW

VOL. XIX. Published every Thursday at 418-19 Perry-Payne Bldg., by the Marine Review Pub. Co. CLEVELAND, O., JANUARY 26, 1899. Entered at Cleveland Postoffice as second class matter. No. 4

NEW SHIPS FOR 1900.

BESSEMER COMPANY ASKS FOR BIDS ON THREE MORE BIG FREIGHTERS—OPENING OF THE WHEELER YARD AT WEST BAY CITY—A MAGNIFICENT YACHT FOR W. J. CONNERS.

Detroit, Mich., Jan. 25—Nearly all the builders of steel ships on the lakes were in attendance at the annual meeting of the Lake Carriers' Association, and the news of new ships which developed when they began to compare notes is certainly an indication of a prosperous outlook in the lake trade. Mr. L. M. Bowers of the Bessemer Steamship Co. (Rockefeller fleet) has asked for bids on three more freight carriers of the largest type—a steamer and two barges. The steamer is to be a duplicate of the Morse, the largest vessel on the lakes, and the barges are to be of the 8,000-net-ton type, similar to the barges Fritz and Roebling, built recently at West Bay City. If contracts are let for these three vessels, the Bessemer company will have five freight carriers of the largest type building in lake yards. A duplicate of the Morse is now under construction at the Globe yard, Cleveland, and a duplicate of the barge Roebling at the works of the American Steel Barge Co., West Superior.

The vessels now proposed are not to be delivered until the spring of 1900, as there is no yard on the lakes that can make earlier delivery. The Cleveland Ship Building Co., Globe Iron Works Co. and American Steel Barge Co. are bidding on the vessels, but the other yards have not been consulted in the matter. Steel for ship construction has advanced to about $29 a ton, against a price of $22 a ton only a short time ago. This condition, due to activity in ship yards all over the country as well as on the lakes, and due also to more foreign orders for ship plate booked by the mills recently, may interfere with these contracts, but it is not thought that the management of the Bessemer company would again take up the question of new ships, especially for delivery in 1900, if they were not quite well settled on the policy of going ahead with the construction of more new tonnage.

The ship builders also learned at this meeting that with the assistance of the management of the Bessemer company and other friends, F. W. Wheeler of West Bay City, has been so successful in arrangements with numerous creditors of F. W. Wheeler & Co. as to admit of his taking a contract for a steel steamer, a lumber carrier, to be built at the West Bay City yard. The contract was closed with Mr. Wheeler here Tuesday by the Prindevilles of Chicago, representing Jesse Spaulding, lumber dealer and vessel owner of Chicago. The vessel is to cost about $100,000. She will be 220 feet keel, 236 feet over all, 40 feet beam and 16 feet moulded depth, with a 3-foot water bottom. Engines will be triple expansion, with cylinders of 17, 28 and 48 inches by 36 inches stroke, and there are to be two Scotch boilers of 11 by 12 feet. It is understood that W. C. Penoyer of West Bay City is joining F. W. Wheeler in the reopening of the West Bay City yard.

In addition to the orders referred to above, it is announced that the Flint & Pere Marquette Ry. Co. will call for bids in a few days for a duplicate of the big car ferry Pere Marquette, built by F. W. Wheeler & Co. only a short time ago. This order will certainly be placed very soon, so as to have the new car ferry ready for service in the spring of 1900. The contract will undoubtedly go to F. W. Wheeler, if he can give proof of a straightening out of the tangle that has kept the West Bay City plant idle for a long time past. An order for another car ferry, to be used on Lake Michigan by Wisconsin and Michigan railways in carrying coal from the mining district recently developed in Michigan, will also be placed with one of the lake yards shortly.

In referring to the call from the Bessemer company for more bids, a vessel owner who is in close touch with ship yard matters says: "It would seem that one object of the Bessemer company in calling for bids just now is to make prices for another contract with F. W. Wheeler. Still it should be a matter of encouragement regarding the general business outlook of the country for the next two or three years to learn that, notwithstanding the great advance in material, Mr. Rockefeller's representatives are negotiating for another half a million dollar's worth of vessel property, which is not to come out until 1900. I am told also that the Detroit Dry Dock Co. is getting $240,000 each for the two freight steamers they are about to put down at Wyandotte. Contracts for vessels of this kind could have been closed a couple of months ago at about $215,000 each. The Dry Dock people are certainly at an advantage in having refused cheap work this year. One of these vessels is for the Eddy-Shaw interest of West Bay City. Names of owners of the other vessel are not given out, but she will be managed in Detroit. Another indication of higher values on modern ships is found in negotiations for the sale of the steamer C. A. Black, built during the past year by the Cleveland Ship Building Co. at Lorain. Detroit owners of this vessel have been offered $235,000 for her by two intending purchasers. She is being held at $240,000. Her cost was not very much in excess of $200,000. She was ordered when work was slack in the ship yards.

It was also learned at the Russell house that the Union Dry Dock Co. of Buffalo is to build for W. J. Conners a yacht to replace the Enquirer, sold to the government during the war. In the new vessel many things are to be sacrificed for speed, and she will be one of the fastest pleasure crafts in the country. The hull will be of Welland canal dimensions, about 240 feet over all and 25 feet beam. Water tube boilers will furnish steam at 250 pounds pressure to quadruple expansion engines, that are to be designed for 3,000 horse power.

LAKE CARRIERS.

AFFAIRS OF THE ASSOCIATION AS DISCUSSED AT THE ANNUAL MEETING IN DETROIT—NEW GRAIN BILL OF LADING IS THE SUBJECT OF FIRST IMPORTANCE TO THE VESSEL MEN—NIGHT WORK ON THE IRON ORE DOCKS OF LAKE ERIE—A TESTIMONIAL TO COUNSEL HARVEY D. GOULDER—MR. F. J. FIRTH OF THE ANCHOR LINE IS THE NEW PRESIDENT.

Detroit, Mich., Jan. 25—It has become the policy of the Lake Carriers' Association, which represents practically the entire vessel interests of the lakes, to take up in annual meeting each year one or two important undertakings in connection with lake transportation and to appoint strong committees to carry out the plans of the organization in respect to these special measures. This year the question of a new grain bill of lading, which affects not only the vessel owners, but also the grain shippers of Chicago and Duluth, the elevator owners of Buffalo and the grain buyers of New York, Philadelphia, Baltimore and other seabord points, was of first importance. Under the present bill of lading vessels are subjected to delays and to other disadvantages which it is hoped will be overcome by conferences with the several interests involved. The association has outlined certain changes that are desired in the grain carrying contract, and it is expected that before the next season of navigation arrangements will have been made with the grain interests to put most of these changes into effect.

Another important proposition is to inaugurate night work on the ore receiving docks, where about 14,000,000 gross tons of iron ore were handled last season. This change is prompted by the immense volume of business in the iron industry in sight for the coming year. It is understood that the Carnegie company is planning to operate its docks night and day during the coming season. A committee of the Association will take up this question at once with the managers of numerous other ore receiving docks.

Although one of the last subjects to be taken up in general meeting, the question of a new grain bill of lading was of first importance at the Detroit gathering. It took up the attention of one of the strongest committees of the convention for the greater part of two days. Members of the committee were L. C. Waldo of Detroit, A. B. Wolvin of Duluth, J. J. H. Brown of Buffalo, D. Sullivan of Chicago, H. Coulby of Cleveland, David Vance of Milwaukee and A. W. Coulton of Toledo. For three or four years past the association has talked of adopting and endeavoring to enforce on the great lakes a bill of lading for the grain trade that would do away with grievances which the ship encounters in dealings with managers of elevators at both ends of the lake route, but more especially at Duluth and Buffalo. Previous to the present meeting the discussion of these grievances has ended with general complaint when the Lake Carriers' came together each year. No determined policy was outlined. But with vessels growing larger and gradually getting into stronger hands, it is expected that the determination shown this year to settle the bill of lading question will at least result in removing some of the disadvantages to which the vessels have been subjected. There was no disposition to take arbitrary action in the matter. The secretary of the association had sent out invitations to be present to elevator managers at Duluth and Chicago, to the elevator men of Buffalo, and to the traffic managers of railways operating between Buffalo and the seaboard, as well as receivers of grain at New York, Philadelphia and other seaboard points.

None of the eastern buyers of grain attended the meeting, but the committee was met by the following representatives of New York railways and the elevator interests: F. La Bau, general freight agent, West Shore Railroad, New York; A. B. Walmsley, agent West Shore Railroad, Buffalo; Robert McDougal, with Otto E. Lohrke & Co., 702 Rialto building, Chicago; G. G. Barnum, Barnum Grain Co., Duluth; Ward Ames, Duluth, Minn.; Geo. Spencer, Spencer, Moore & Co., Duluth; Geo. E. Marcy, Armour & Co., Chicago; W. J. Nye, Milmine, Bodman & Co., Chicago; H. H. Peters, Bartlett, Frazier & Co., Chicago. To these gentlemen the hardships encountered by vessels under the present bill of lading were explained. It was shown that there was absolutely no redress for the ship against delays at Duluth and Buffalo that would not be tolerated in any other branch of the transportation business; that the vessel should never stand in the breach between the seller and buyer of grain in the matter of the antiquated clause regarding shortages and overages; that the action of Duluth shippers in sending vessels to four or five elevators at Duluth, West Superior and Old Superior for small jags of cargo, without any effort whatever to suit the convenience of the ship was unreasonable beyond measure; and that there was in the end no one on whom responsi-

FRANK J. FIRTH. PHILADELPHIA.

PRESIDENT OF THE LAKE CARRIERS' ASSOCIATION.

FRANK J. FIRTH. PHILADELPHIA.

PRESIDENT OF THE LAKE CARRIERS' ASSOCIATION.

we have decided to present to our faithful and ever-vigilant representative who gave the officials at Washington first a 'rag-time,' then a 'warm time,' and finally a 'hot time' over the iniquitous assessment of the war stamp tax on the manifests or clearance papers of our inland marine commerce. He had to give them three times three, and all the different kinds of times, in order to carry his point, but he did it in the wind-up which was so hot with justice, right and common sense that the authorities couldn't resist him. It is in recognition of his services to the Lake Carriers' Association in connection with securing the suspension of the tax on vessel charters from port to port, a manifest injustice which the congress could not have intelligently contemplated, and further as a testimonial to him of our continued esteem of him as a man, friend and counsellor that, it is my pleasant privilege in the name and on behalf of the Lake Carriers' Association to present to him the beautiful piece of mechanism which is now unveiled (Capt. J. J. H. Brown here unveiled the clock), for the first time to his surprised vision. This is the 'time' we have set apart for him. This is the seal of our approval of his splendid fidelity.

"As he loks into its fair, round, immobile face let him see there reflected in composite the features of his friends and co-laborers in the Lake Carriers' Association. As he hears its steady, sonorous 'tick,' 'tick,' as the great pendulum swings back and forth, let it echo to him the affectionate heart-beats of his fraters. As its hands point to him the seconds, minutes and hours of the day let them remind him that our constancy of regard may be so measured, but never exhausted. When the deep-toned gong sounds the speeding hours may it revive to him the sentiments of esteem which prompted us in a spirit of chivalry to give him a 'time' more enduring than fleeting pleasures, more to be cherished than many pieces of gold and silver. Finally, when he comes to wind up the stately mechanism at long intervals, let him be assured that it marks only the strengthening of the ties of fraternity and fellowship which inspired the donors.

"May he reflect that while time is immeasurable, yet we divide it and apportion it as if it were but a plaything from our nurseries. Immeasureable as it is, it cannot be compared in immensity to the fountain of human love, which cannot be divided or allotted to suit the whims of passing fancy. The 'time' we give him is perishable. The machinery will yield to the corroding processes of the years. The face will discolor from the action of the air. The hands will wear themselves out from constant revolving. The pendulum will one day stop pulseless and refuse to start again. But the spirit that prompts the gift is eternal and imperishable. It first found expression in the preference which distinguished the lives of Cain and Abel. It has lived and thrived through the epochs of sun-line and sand-glass down through the centuries. Human love is as imperishable as the hills of Rome or the rocks of Gibraltar. We express it today only a little more elegantly than did the daughter of Pharaoh. Its essential quality has survived the flight of time to nestle today where it germinated at the dawn of creation—in the bosom of Almighty God."

A RARE OLD TIME PIECE.

The clock thus presented is a very ponderous time piece, weighing several hundred pounds and enclosed in a case some six or seven feet high, ornamented in the Empire style of decoration. According to a very well authenticated history the clock was originally the property of Napoleon I, having been placed in the villa Neuwied which was fitted up for his occupancy during his stay at Mayence. The clock has been for some time in the possession of a New York dealer in antiques, at whose establishment Mr. Goulder saw it and admired it very much. The clock was purchased at a cost of $1,000 by Mr. Goulder's friends, and something of their enthusiasm may be imagined when it is stated that they expended several hundred dollars to have an expert bring it to Detroit and set it up, and the services of this expert will be retained until after the clock has been expressed to Cleveland and set up in Mr. Goulder's home. On the front of the case is a gold plate bearing the engraved inscription "Presented to Mr. Harvey D. Goulder by his friends in the Lake Carriers' Association, in recognition of his professional skill and fidelity and as a testimonial of their high esteem. Detroit, Jan. 24, 1899." So many persons were anxious to contribute to the fund for the purchase of the clock that a surplus of several hundred dollars remained. It was originally intended to present this sum in gold to Mrs. Goulder, but it was finally decided to follow a suggestion which Mr. Goulder warmly advocated, and present the purse thus formed to Treasurer George P. McKay.

In responding to Mr. Livingstone's remarks Mr. Goulder said in part: "I cannot say that you have taken me completely by surprise because I was raised in a family of sailors, and after serving vesselmen for twenty years you could not surprise me by any generosity you might display. The testimonial, coming as it does from so many men as a testimonial to diligent and faithful service, impresses me very deeply. This testimonial will be to me always an ever-present assurance that there is a silver lining to every cloud—evidence that if a man tries to do his duty, even if he meets with disappointments, the effort is appreciated. I can say no more than that from the bottom of my heart I thank you."

GENERAL REVIEW OF AFFAIRS OF THE ASSOCIATION.

The first business taken up on the regular schedule of the session was the presentation of the annual reports of the secretary and treasurer. Mr. C. H. Keep, the secretary, read both, Treasurer George P. McKay being detained at home by illness. Not everybody reading the account of this meeting will care to go through the annual report of Secretary Keep, which is printed in full elsewhere, together with the report of Treasurer Geo. P. McKay. Mr. Keep's report which is always submitted in the name of the board of managers and has the approval of that body, is a full summary of affairs of the association, and a synopsis of it will therefore prove interesting. The most important section of it relates to the question of a new grain bill of lading, the one important undertaking of the present year. The objections to the present grain bill of lading have been discussed on numerous occasions in the past, especially that part of it relating to shortages and overruns, which has always acted against the vessel. It is well known that the shortages each year exceed the overruns. In the past year the excess of shortages at Buffalo alone according to reports of the weighmasters, was about 57,000 bushels. This means a loss to the vessels, estimating grain of all kinds at an average of 50 cents a bushel, of $28,500. Such was the amount paid by vessel owners in excess of what they received for overruns. Added to this loss is the additional disadvantage of numerous consignments for a single cargo, with attendant extra tow bills, etc., since vessels have been getting larger each year. The secretary directs attention to these conditions, and tells of having invited to the meeting representatives of the principal grain shipping concerns, in order that the bill of lading question may be intelligently handled by a special committee and disposed of, if possible, before the opening of another season of navigation. He has also collected a large amount of special information on the subject for the use of the committee, as the matter must be taken up with the grain shippers of Duluth and Chicago and with eastern shippers of grain.

The tonnage of the association, Mr. Keep says, is practically the same as it was a year ago, notwithstanding the loss of the Davidson fleet of West Bay City, but the membership of small vessels is steadily decreasing, although the dues for small vessels were cut down some time ago. More than half the entire expenses of the association, nearly $11,000, is paid for maintenance of the shipping offices, from which 16,508 men were placed aboard vessels in 1898. The difficulties that came up in Buffalo after the last annual meeting in settling grain shovelling affairs with the elevators are discussed, and it is noted that, although concessions are made all around by the vessel owners, by Contractor Conners and by the elevators in fixing upon the price of $3.10 per thousand bushels for shovelling, still the saving of 25 cents per thousand as against the price paid in 1897, represents a gain to the vessels on 221,383,945 bushels of grain handled in Buffalo in 1898, of $45,000, which is more than double the entire membership dues of the organization.

The association is now paying $2,900 a year for private lights. This can not be reduced until such time as the Canadian government may be more liberally disposed in the matter of lights. The lights are in Canada. On the "Soo" river several sets of range lights are maintained by light speculators. Vessel owners are called upon individually each year to contribute for the care of these lights. The secretary says that gas buoys to take the place of these private lights will probably be secured from the United States light house board within the coming season, but he recommends that in the meantime the aids to navigation committee should be empowered to take over such of these lights as are necessary and care for them until the gas buoys are secured. It is estimated that Mr. Goulder's success in having vessels of the great lakes and the coasting trade relieved of the charter tax imposed by the war revenue act means a saving to vessels on the lakes alone of full $250,000 annually. The report praises very highly Mr. Goulder's successful efforts on this score. As a result of the efforts of executive officers of the association, working with the National Board of Steam Navigation, the house of representatives has just passed a bill that will do away with blackmailing practices connected with the libeling of vessels on small claims. The bill makes provision for bonds to be given by vessels in advance to admiralty courts. With these bonds on file the release of a vessel when libeled on a small claim would be immediate. It is expected the bill will pass the senate without difficulty.

LAKE WATER LEVELS.

Another very important part of the secretary's report relates to the question of water levels. Mr. Keep has been giving special study to this subject during the past year, and has been making investigations that tend to confirm, he says, what the engineer officers in charge of channel improvements on the lakes have always contended, namely, that the changes in lake levels from year to year have been produced solely by variations in annual rainfall on the area included in the lake water-shed, and that the extensive channel improvements made in late years have not in any respect produced the lowering of lake levels. When the Chicago drainage canal goes into effect, however, a new outlet for Lake Michigan and Lake Huron will be created, which must necessarily affect the levels of those lakes to some extent.

The report directs attention to the power canal projected as a private enterprise at Sault Ste. Marie. This canal will provide an additional outlet for Lake Superior and might interfere with the draught of water in the St. Mary's Falls canal if its construction is not carefully watched. It is suggested that the secretary of war has full power to prevent the canal company from creating an additional Lake Superior outlet, which would materially lower the water in that lake, until they have built sufficient structures in the natural channel of St. Mary's river above the rapids to diminish the flow of water through the natural course of the river by as much as the capacity of the power canal.

FINANCES OF THE ASSOCIATION.

It costs nearly $20,000 a year to run the association. For the past two years the tonnage dues collected have been about equal to the expenses, but an old indebtedness of something more than $2,000 has been carried from year to year. The treasurer's report shows that with the close of the year there is practically no money on hand, but the indebtedness that can not be cared for by small balances yet to be collected is the old debt. It was thought this old debt would be wiped out during the coming year by increasing the dues on large vessels, but as noted later on no change was made in dues.

The call for the presentation of nominations for the presidency was responded to by the submission by Mr. Coulby of Cleveland, of the name of Frank J. Firth of Philadelphia. Mr. Coulby said: "Following the usual custom it now becomes the duty of the association to elect a president for the ensuing year. It has seemed to some of us that the rule of the association prohibiting the president from serving more than one year should be stricken from our by-laws, for the reason that we believe a man can give the association better service after a year's experience in the office. This, however, is a matter that can be discussed later on.

"In presenting the name of Mr. Frank J. Firth of Philadelphia, I will state that he has been one of the vice presidents of the association since its organization. Prior to that time he was an active member of the old Lake Carriers' Association of Buffalo. For many years he has been president of the Anchor line, and has always shown a deep interest in the affairs of the association. While he does not live on the border of the lakes, I do not believe there is any one present that has kept himself in closer touch with the growth of and needs of our lake commerce than Mr. Firth."

MR. F. J. FIRTH ELECTED PRESIDENT.

The nomination was seconded by Mr. R. R. Rhodes of Cleveland, Capt. Thomas Wilson of Cleveland, A. B. Wolvin of Duluth, and Capt. Alexander McDougall of West Superior, and upon motion the secretary was instructed to cast the ballot electing Mr. Firth unanimously. After a discussion of the subject it was deemed advisable to have one official

designated as the first vice-president, and Capt. Thomas Wilson of Cleveland was elected to the position, he assuming the chair at the afternoon session. Secretary Keep, Treasurer George P. McKay and Consul Harvey D. Goulder were re-elected unanimously. Just prior to adjournment the chair announced the appointment of the following committee on nominations: C. W. Elphicke of Chicago, H. A. Meyer of Milwaukee, Alexander McDougall of West Superior, Benjamin Boutell of West Bay City, William Livingstone of Detroit, W. S. Brainard of Toledo, W. C. Richardson of Cleveland, and Coward Maytham of Buffalo.

At the opening of the afternoon session, on motion of A. B. Wolvin, a committee of seven was appointed to consider the grain bill of lading problem. The chair appointed H. Coulby of Cleveland, J. J. H. Brown of Buffalo, A. W. Colton of Toledo, L. C. Waldo of Detroit, Dennis Sullivan of Chicago, David Vance of Milwaukee, and A. B. Wolvin of Duluth.

When the question of fixing the dues for next season came up, Secretary Keep called attention to the fact that although the receipts of the association have been sufficient for the operating expenses during both 1897 and 1898 there is an outstanding debt which it had been found impossible to reduce. Despite this fact, however, it was decided, upon motion, that the dues should remain as formerly—3 cents per ton for vessels over 1,200 tons and 2 cents per ton for vessels under 1,200 tons. Upon the recommendation of the nominating committee, officers of the association were elected as follows:

VICE PRESIDENTS AND OTHER OFFICERS.

Vice presidents—Thomas Wilson of Cleveland, W. H. Meyer of Milwaukee, J. S. Dunham of Chicago, W. A. Livingstone of Detroit, W. C. Farrington of Buffalo, Alexander McDougall of Duluth, James E. Davidson of West Bay City, W. S. Brainard of Toledo, W. J. Cummings of Oswego, Mark Hopkins of St. Clair, James McBrier of Erie, Frank Owen of Ogdensburg, F. W. Gilchrist of Alpena and G. E. Tener of Fairport. The president and first vice president will be ex officio members of the three standing committees.

Board of Managers—E. Gaskin, Peter P. Miller, E. T. Evans, G. L. Douglas, J. J. H. Brown, John Kelderhouse, W. H. Gratwick, Jr., M. M. Drake, W. P. Henry, Edward Smith, W. C. Farrington, C. H. Donaldson, James McKenzie, C. A. Brunn, E. C. Maytham, and R. H. Hebard of Buffalo; Thomas Wilson, M. A. Bradley, James Corrigan, H. M. Hanna, George P. McKay, H. G. Dalton, Harvey H. Brown, John W. Moore, B. L. Pennington, John Corrigan, William Gerlach, Henry A. Hawgood, W. C. Richardson, J. C. Gilchrist, W. D. Rees, John Mitchell, R. R. Rhodes, Caleb E. Gowan, L. M. Bowers, W. H. Becker, W. A. Hawgood, W. H. Mack, C. E. Benham, H. Coulby, J. H. Sheadle, W. G. Mather and W. W. Brown of Cleveland; James W. Millen, William Livingstone, Jr., David Carter, D. C. Whitney, W. A. Livingstone, A. A. Parker, L. C. Waldo, J. W. Westcott and Thomas Adams of Detroit; D. T. Helm, Jesse Spaulding, J. S. Dunham, John G. Keith, Joseph Austrian, C. W. Elphicke, Wiley M. Eagan, J. J. Rardon and James H. Calbick of Chicago; Parks Foster of Elyria; Leander Burdick, W. S. Brainard, A. W. Colton and L. S. Sullivan of Toledo; James Davidson, Charles A. Eddy, O. W. Blodgett, B. Boutell, Thomas Granage, Howard L. Shaw and J. W. McGraw of West Bay City; Alexander McDougall, F. N. LaSalle, G. H. Tomlinson and A. B. Wolvin of Duluth; David Vance, R. P. Fitzgerald, H. J. Pauly, W. H. Wolf, W. H. Meyer and W. E. Fitzgerald of Milwaukee; James McBrier of Erie; F. W. Gilchrist of Alpena; C. T. Morley of Marine City; R. E. Schuck of Sandusky; J. H. Westbrook of Ogdensburg; and G. E. Tener of Fairport.

Executive committee—James Corrigan, H. A. Hawgood, Thomas Wilson, M. A. Bradley, L. M. Bowers, W. C. Richardson, J. C. Gilchrist, R. R. Rhodes, H. Coulby, J. H. Sheadle, John Mitchell, B. L. Pennington and William Gerlach of Cleveland; J. W. Westcott, L. C. Waldo and James Millen of Detroit; W. P. Henry and J. J. H. Brown of Buffalo; W. H. Meyer and David Vance of Milwaukee; J. S. Dunham and C. W. Elphicke of Chicago; and A. B. Wolvin of Duluth.

Committee on aids to navigation—George P. McKay, W. H. Becker, John W. Moore, W. A. Hawgood, Edward Morton and C. E. Benham of Cleveland; J. G. Keith and W. M. Eagan of Chicago; W. A. Livingstone of Detroit; J. H. Westbrooke of Ogdensburg; A. W. Colton of Toledo; James Davidson and Howard L. Shaw of West Bay City; M. M. Drake of Buffalo; W. W. Smith of Sault Ste. Marie; C. T. Morley of Marine City; and W. E. Fitzgerald of Milwaukee.

Committee on Legislation—G. L. Douglas, E. T. Evans, P. P. Miller, M. M. Drake, W. P. Henry, W. C. Farrington and J. J. H. Brown of Buffalo; L. C. Hanna and James Corrigan of Cleveland; William Livingstone of Detroit; C. A. Eddy of West Bay City; Alexander McDougall of Duluth; James E. Davidson of West Bay City; Dennis Sullivan of Chicago and R. P. Fitzgerald of Milwaukee.

The question of grain shoveling was next taken up and it was declared the sense of the chair that bids for the work be submitted and their consideration left to a committee of eight. After the members from the various ports had caucused, the following was announced as the committee: James Corrigan of Cleveland; C. W. Elphicke of Chicago; E. Gaskin and W. H. Gratwick, Jr. of Buffalo; L. S. Sullivan of Toledo; J. W. Millen of Detroit; W. H. Meyer of Milwaukee and Alexander McDougall of Duluth.

NIGHT WORK ON THE ORE DOCKS.

As two important committees, one dealing with the Buffalo grain shovelling question and the other trying to devise a new form of grain bill of lading, were at work all of Wednesday morning, the first session on Wednesday was rather brief. It was learned, however, that another matter of special importance to the ore trade had developed during Tuesday night. Mr. L. M. Bowers, representing the Bessemer Steamship Co. (Rockefeller interest), had arrived Tuesday evening. He has been known to be very positive in the opinion that when the work of unloading an ore vessel is once begun, it should be continued into the night, and all night, if necessary, until the job is finished, just as is done at South Chicago. It is expected that the ore movement next year will be limited only by the facilities of docks and railways, especially at Lake Erie ports. In other words, the tendency will be towards a great deal of night work on the docks. In the past, the night work has been at extra cost. If a great volume of night work is to be done, on account of the immense business in ore that is looked for next year, and if it is to be done without much, if any, extra cost to the vessels for unloading, the committee that will work out such a proposition must be a strong one. So said the leaders among the Lake Carriers who discussed the matter in advance of Wednesday's meeting. The shortage of cars, even now in the coal region, is a decided drew-back to all plans for night work, but it is understood that the Carnegie company is preparing to operate the Conneaut docks night and day next neason, and the question of urging the other dock companies on Lake Erie to make preparations in the same direction is one in which the vessel men are, of course, very much concerned. They are also interested in the matter of unloading charges next season.

It was to this question of night work that Capt. Thomas Wilson referred when, as presiding officer at the first session on Wednesday, he appointed Mr. L. M. Bowers chairman of the committee on ore trimming and unloading ore. Mr. Bowers announced later, however, that he did not care to accept the position, as his principals are interested in one dock, and for the reason also that he is not disposed as yet to take an active part in affairs of the association. This committee, appointed later, and which will be expected to take the subject up with dock managers before the opening of navigation, is as follows:

R. R. Rhodes, L. M. Bowers, John Mitchell, and W. C. Richardson of Cleveland; Capt. J. S. Dunham and J. J. Rardon of Chicago; W. S. Brainard of Toledo; F. N. LaSalle of Duluth; James McBrier of Erie; W. E. Fitzgerald of Milwaukee; H. L. Shaw of Bay City; Peter P. Miller of Buffalo and William Livingstone of Detroit. Five shall constitute a quorum and the headquarters of the committee will be at Cleveland.

THE LUMBER INTERESTS.

Irregularities in the lumber trade that may be properly dealt with by the association will also have the attention of a special committee. Capt. James A. Calbick of Chicago was appointed chairman of this committee. There was a rather lengthy discussion of affairs of the lumber carriers. Capt. J. S. Dunham of Chicago said that he thought the problems in this branch of the lake trade were quite as serious and important as those in connection with grain handling. He was sure that if the association would consent to take these difficulties, many of the lumber carriers would join the organization. Capt. Wilson said that he felt sure the committee of which Capt. Calbick was chairman would be very glad to take the matter up from every standpoint and would do everything possible to further the interests of any men engaged in the lumber carrying trade who are members of the Lake Carriers' Association or who might become such during the year. Capt. Dunham said that it was his idea to reach especially the lumber tows—the steamers and consorts.

Capt. J. A. Calbick of Chicago will have with him as members of the lumber committee the following: Alfred Mitchell of Cleveland, C. A. Chamberlain of Detroit, Edward Smith of Buffalo, P. M. Shaw, Jr., of Duluth, T. E. Madden of West Bay City, Louis McCormick of Menominee and Alvan Neal of Port Huron. Some of these gentlemen are not at present members of the association but the committee was empowered to fill vacancies in the case of any who declined to become members.

The secretary was instructed to telegraph to Senator Frye and the chairman of the judiciary committee of the senate and urge them to use their best endeavors to secure the passage in the senate of the bill which recently passed the house to protect vesselmen from the annoyance of having vessels delayed by small libels. This bill is dealt with at length in the report of the board of managers.

Secretary Keep brought up the matter of private lights in St. Mary's river, now maintained by men who seek contributions from the vessel owners. He stated that while it is anticipated that the government will next season assume charge of lighting this river, there is likely to be an interval between the opening of navigation and the period when the government lights will be put in operation when it will be necessary to depend upon the private lights. Upon Mr. Keep's recommendation the matter was referred to the committee on aids to navigation, to deal with the light keepers.

PROBABLY SOME REDUCTION IN GRAIN SHOVELLING.

As had been expected, there was no opposition to W. J. Conners of Buffalo in bidding for the grain shovelling contract. He had made an arrangement with James Kennedy, his opponent of last year, to again supervise the work, and their bid was $3.10, the price at which the shovelling was done last season. But the committee in charge of this matter spent all of Wednesday morning in discussing it, as they were desirous of leaving everything pertaining to the contract in such shape that the Lake Carriers could themselves deal with the elevator owners in the hope of securing a further reduction in the charge for steam shovels. They are satisfied with the figures fixed for labor and for looking after the work, but it is expected there will be some reduction in the charge for steam shovels. This is indicated by the report of the committee, which follows:

"W. J. Conners of Buffalo submitted to your committee a bid of $3.10 per thousand, the same as last year, and agreed to give bond, the same as last year. He appeared before the committee and stated that his bid was on a basis of $1.20 for steam shovels and $1.90 for labor and supervision. No other bids were received. In further discussion, Mr. Conners agreed that the vessels should have the benefit of any reduction in the price of steam shovels that can be obtained by negotiation with elevator owners. The committee consider that Mr. Conners' bid, so far as labor and supervision is concerned, is a fair one. The committee further consider that as the committee invited bids at this meeting it would be unfair to the only bidder to permit others to hand in bids hereafter. They therefore recommend that Mr. Conners have the shovelling contract at Buffalo for 1899, but that before the actual agreement be executed, negotiations should be taken up with the owners of steam shovels to see whether some reduction in the price of steam shovels cannot be obtained. They recommend that a committee of the association be appointed at this meeting to take up this negotiation, and before the opening of navigation close up a contract at the best terms possible to obtain; such committee to report to the executive committee of the association."

The grain shovelling committee was continued with instructions to carry out the plan suggested in its report.

Secretary Keep was instructed to investigate the matter of alleged

poor service at the marine hospital at Sault Ste. Marie and see what could be done in the matter. A coal bill of lading was discussed and the matter referred to the grain bill of lading committee. It has been found that some of the coal shippers have issued bills of lading in the coal trade in which it was stated that neither the consignee nor the consignor should be held liable for delay to the vessel in loading or unloading.

Mr. Coulby of Cleveland, in accordance with a provision which necessitates notice one year in advance of any proposed change in the by-laws, announced that he would next year ask for an amendment to the by-laws making it possible for a person to serve as president of the association for more than one term. Adjournment was taken to the third Wednesday in January, 1900.

MEMBERS AND OTHERS IN ATTENDANCE.

A list of members of the association and others (excepting Detroit) in attendance at the meeting follows:

Cleveland—R. L. Newman, Harvey D. Goulder, W. H. Mack, J. A. McGean, Wm. Gerlach, T. F. Newman, Chancy Morgan, Edwin S. Mills, W. W. Brown, W. E. Chapman, C. R. Jones, Thomas Wilson, John V. Tuttle, James C. Wallace, R. R. Rhodes, W. A. Collier, C. C. Canfield, Alfred Mitchell, John F. Wedow, H. Coulby, John Corrigan, W. C. Richardson, Thomas Wilford, C. L. Hutchinson, Walton McGean, J. A. Donaldson, N. J. Boylan, E. M. Richardson, John Warner, Martin Conners, A. R. Rumsey, John Leonard, Mark Hanlon, J. E. Upson, Edward Morton, A. B. Conkey, W. S. Manuel, E. T. Bierce, L. M. Bowers, Martin Mullen, Robt. Mullen.

Buffalo—J. J. H. Brown, C. H. Keep, John Johnson, J. B. Hall, E. C. Maytham, John Green, W. J. McNiff, Alex Clark, John J. Boland, M. Lynch, Wm. Graham, J. H. Kelleran, Edward Gaskin, F. A. Meyer, Wm. H. Kennedy, C. F. Coughlin, Junius S. Smith, Harvey L. Brown, W. J. Conners, G. W. Maytham, J. D. Gilchrist, W. H. Gratwick, Jr.

Chicago—D. E. Lynn, E. A. Schuyler, H. A. Foss, E. P. Gould, J. J. Rardon, W. J. Rardon, Geo. Tebo, J. S. Dunham, R. J. Dunham, C. W. Elphicke, John Prindeville, Thomas J. Prindeville, James W. Prindeville, Geo. Lynn, D. Sullivan, D. T. Helm, Cyrus Sinclair, Miles Barry, C. A. Macdonald, J. A. Calbick.

Port Huron—H. E. Runnels, W. E. Rice, Collin McLaughlin, Wm. Forbes, James J. Lynn, Alvin Neal, H. McMorran, Thos. Currie, Edward McGregor, George Pierce, Edward McGowen, W. P. Boynton, Hugh McGowen, James Boby, Dennis Lynn, Jr., P. Powier, D. Hutchison, W. Hutchison, W. C. May, M. W. Budd.

Marine City—Mayor G. W. Parker, C. T. Morley, Capt. Townsend, Wm. Smith, John Jenkins, J. A. Ward, C. E. Norton, A. Senghas, Wm. Shorkey, F. S. Parker, Edward Allum.

St. Clair—E. B. McQueen, C. C. Balfour, M. P. Parsons, Wm. Brown, R. O'Connor, Chas. Beyschlag, E. C. Recor, Mark Hopkins, J. C. Pringle, W. B. McGregor.

Duluth—A. B. Wolvin, Alex McDougall, W. H. Singer, B. B. Inman, Alex Sinclair, Ward Ames, Geo. Spencer, C. H. Weeks, G. A. Tomlinson.

Toledo—J. P. Nagle, L. S. Sullivan, C. N. Pratt, W. S. Brainard, A. W. Colton, J. T. Solon.

West Bay City—F. W. Wheeler, W. C. Penoyer, E. T. Carrington, W. M. Mitchell, B. Boutell, F. Boutell.

Milwaukee—W. E. Fitzgerald, H. A. Meyer, T. W. Sheriffs, David Vance.

From various ports—W. J. Symons, Fairport, O.; Joseph Rouleau, J. C. Barnheisel, Sault Ste. Marie; Paul Heft, Rogers City, Mich; Edward Gillin, Racine, Wis.; H. L. Holden, Two Harbors, Minn.; Andrew Hackett, John Mullen, H. G. Duff, Amherstburg; F. A. Kirby, Wyandotte, Mich.

ANNUAL BANQUET.

IT WAS WELL ATTENDED NOTWITHSTANDING HASTY PREPARATIONS—A TELEGRAM FROM THE NEW PRESIDENT—PERMANENT BANQUET COMMITTEE.

The annual banquet, which was held in the convention hall in the Russell House Wednesday evening, was attended by about 100 guests. The decorations of the hall and the tables were most elaborate, the national colors predominating. Mr. Harvey D. Goulder acted as toast master, and in opening the ceremonies read the following telegram from Frank J. Firth of Philadelphia, the newly elected president of the association: "Message advising me of election received. Convey to the convention my thanks and appreciation. Whatever I can do to advance the association's interests will be done."

Capt. Thomas Wilson was the first speaker, and he urged the necessity of always keeping the association intact in its present form, remarking that it never had desired anything but what was right, and that he did not believe it ever would. Capt. Tuttle, W. C. Richardson and Capt. J. S. Dunham followed with remarks. Capt. Dunham urged the advisability of making the banquet a regular annual feature and of devoting a little more attention to the social features of the convention in general. In this connection, toastmaster Goulder announced that a committee consisting of William Livingstone of Detroit, Secretary Keep of Buffalo and John Mitchell of Cleveland, had been appointed as a permanent banquet committee.

Great applause greeted the reading of the following telegram: "Make the meeting last another day and I will be there—George P. McKay," and the toast to the treasurer was made standing and in silence.

Capt. Alexander McDougall of West Superior, spoke at some length, emphasizing the low cost of moving freight on the lakes, and concluded with a strong argument for members of the association as individuals to do everything in their power to further the interests of the Hanna-Payne shipping bill in congress. Other speakers followed, many of the remarks being of a humorous character, and the gathering did not break up until a late hour.

The steamers Parks Foster and Ira Owen, which have been managed of late in the office of P. H. Fleming & Co., Chicago, are now in the hands of Parks Foster of Elyria, and will be managed from some Cleveland office during the coming season.

REPORT OF THE MANAGERS

A SUMMARY OF ALL AFFAIRS OF THE LAKE CARRIERS' ASSOCIATION DURING 1898—INTERESTING DOCUMENT FROM SECRETARY KEEP—TONNAGE AND FINANCES—REVIEW OF QUESTION OF LAKE LEVELS, WELLAND CANAL TOLLS, GRAIN SHOVELLING, GRAIN BILL OF LADING, ETC.

To the members of the Lake Carriers' Association:—The board of managers of the association submits herewith its annual report of the proceedings and operations of the association during the past year:

TONNAGE.

The tonnage enrolled on the books of the association for the year just closed, was 686,014 tons. The following is a comparison with the tonnage of former years: 1894, 590,000 tons; 1895, 618,000 tons; 1896, 722,863 tons; 1897, 687,237 tons; 1898, 686,014 tons. The tonnage of the past year is almost exactly the same as in the preceding year, in spite of the temporary withdrawal of one very large and prominent fleet.

An analysis of the tonnage list shows a continued dropping out of the small vessels, in spite of the lower rate of dues which they now pay. The enrollment shows 163,562 tons of vessels with less than 1,200 tons registered tonnage. This is a material decrease in the tonnage of these smaller vessels from the previous year. In 1896 the association had 225,000 tons of vessels below 1,200 tons, and in 1897 185,000 tons. Another year will see a still further decrease in the tonnage of the smaller vessels, as quite a large number of these vessels have left the lakes during the past season, and of course it is well understood that practically no small vessels are now being built. The rules of the association require that a member should put in his entire fleet, and an examination of the membership list shows that by far the greater part of the small vessels in the Association become members because they are owned in common with other large vessels. Out of the entire membership of the Association there are only 58,359 tons of vessel property comprised in fleets which are entirely composed of small vessels.

FINANCES.

The treasurer's report will be submitted to you showing in detail the receipts and expenditures during the past twelve months. The statement does not differ materially from that made last year. It shows that the amount of dues that have been so far collected this season is about $500 less than was collected last year; that at the present time there is practically no money in the treasury, and that there are unpaid liabilities amounting to $3,348.43. Last year the treasurer reported unpaid liabilities amounting to $3,370. There were, however, more than $1,000 of the annual dues of the past year uncollected at the time the treasurer's report was made up. Between three and four hundred dollars of this sum has already been collected, and of the balance of $760 nearly all is good, and about half of the same is due from one member of the association. When collections of the dues of 1898 are finished, the association will have about $2,500 of unpaid liabilities. Two years ago we were between $4,000 and $5,000 behind. Last year we were about $3,000 behind, and this year will show results slightly better than last year.

OPERATIONS OF THE SHIPPING OFFICES.

Shipping offices have been maintained by the association during the past year at Cleveland, Chicago, South Chicago, Buffalo, Ashtabula, Toledo and Milwaukee. A condensed report, taken from the annual report of Shippingmaster Rumsey, shows the total number of men shipped through the various shipping offices maintained by the association during the past season to be 16,508, as compared with 13,139 in 1897 and 11,838 in 1896. The following table shows the men shipped through each office in 1898, as compared with 1897:

Offices.	Year.	Number of Men.	Year.	Number of Men
Cleveland	1898	3,799	1897	3,117
Chicago	1898	2,911	1897	2,515
South Chicago	1898	1,914	1897	1,566
Buffalo	1898	2,003	1897	1,745
Ashtabula	1898	2,358	1897	1,613
Toledo	1898	1,112	1897	1,049
Milwaukee	1898	1,718	1897	1,385

In addition to the above, in 1898, 512 men were sent from the Cleveland office to other ports; 134 were sent from the Ashtabula office to other ports, and 45 men were sent from the Chicago and South Chicago offices to other ports. The expenses of the shipping offices during the past season were $10,752.88, considerably more than half the entire expenses of the association. It has therefore cost the association during the past year, about 65 cents for each man put on board of vessels by the shipping offices.

The board of managers desires once more to call the attention of those members of the association who do not use the shipping offices to this feature of the annual report. Some members of the association who do not use the offices themselves have at times appeared to think that they were not extensively used. The details of the report just given will serve to correct this impression. There can be no doubt that the beneficial effect of the shipping offices in handling the labor question on the lakes is received by all owners of vessels on the lakes whether they use the shipping offices or not. In fact, owners of vessels on the lakes who do not join the association and contribute nothing to its support inevitably receive a considerable portion of the benefit of its activity. This is just as true of the shipping offices as it is of the private lighting and legislative work of the association, benefits of which are necessarily enjoyed by all vessels.

GRAIN SHOVELLING.

At the annual meeting in 1898 the Lake Carriers' Association voted to give the contract for all the grain shovelling at Buffalo, N. Y., to Mr.

William J. Conners of that city, at the price of $2.95 per thousand bushels, a reduction of 40 cents per thousand bushels from the contract price of the previous season. Of the $2.95 to be paid to Mr. Conners, he was to pay $1.85 per thousand bushels to the grain shovellers for manual labor, $1.00 per thousand bushels to the elevator for the use of steam shovels, leaving a profit of 10 cents per thousand bushels to the contractor. After obtaining the contract at Detroit, the contractor opened negotiations with the elevators to obtain the use of their shovels at $1.00 per thousand. He finally agreed with three of the elevators for the use of their shovels at this price. The other elevators refused his offer. Considerable ill feeling was aroused in the course of the negotiations, which finally came to a dead-lock, the contractor having obtained the use of the three shovels above referred to, with little prospect of obtaining the use of any other shovels at his figures. He then openly announced his intention to shovel the grain by hand. The elevators on their part announced their intention of abandoning the contract system of shovelling, which had given satisfaction to vessels for four years past, and of returning to the old system under which each elevator had its own gang of shovellers on its own dock. Matters having reached this stage and the opening of navigation in the spring of 1898 being close at hand the executive committee of the association met at Cleveland on March 22 with a view to some settlement which would involve a continuance of the contract system of shovelling and the use of the steam shovels. The Buffalo elevator owners were anxious to avoid the difficulties and losses which would attend a failure to arrive at an amicable settlement and so expressed themselves. On March 23 a conference was held in Buffalo between a committee of the vessel owners and the elevator owners, which lead to a free interchange of views, but no settlement was arrived at. On March 28 another meeting of the executive committee was held at Cleveland, and to this meeting were invited, in addition to the members of the executive committee, all the members of the committee on grain shovelling, and all other vessel owners who could be reached on short notice. The entire matter was carefully talked over, and the meeting took steps for a further conference with the elevator owners. At such conference, held at a later date in Buffalo, an agreement was arrived at upon the following basis: The price of shovelling at Buffalo for the season of 1898 was fixed at $3.10 per thousand bushels; 25 cents per thousand bushels less than the price in 1897, and 15 cents per thousand bushels more than the price made at the last annual meeting. In arriving at this result all parties made concessions; the vessel owners conceded 15 cents per thousand bushels on the contract price, the elevators conceded 15 cents per thousand on the price of their steam shovels, and the contractor threw off one-half of the profit on his contract. The results to the vessel owner, therefore, were a net reduction for the season of 1898 from the previous year of 25 cents per thousand bushels in the cost of grain shovelling at Buffalo, the retention of the contract system, the use of the steam shovels at all the elevators, and the establishment of a condition of peace and concord instead of controversy followed by law suits. There were some members of the Lake Carriers' Association who criticised the action taken, but a full account of all the proceedings was sent to each member of the association and in the main the action taken by the executive committee was approved. No member of the association who did not actually attend the conferences between the various parties to this controversy could appreciate the difficulties of the situation, and to the members of the executive committee and the grain shovelling committee the action taken seemed clearly the right thing to do. It was a gratification to the committee to find that their action so generally received the support and approval of the members of the association.

The grain receipts at the port of Buffalo during the year amounted to 221,383,945 bushels. The reduction in the cost of grain shovelling of 25 cents per thousand bushels from the contract price of 1897, produced a saving to owners of vessels of about $45,000. It will be noted that this sum is more than double the amount of the membership dues paid by all the tonnage in the association for the year 1898.

PRIVATE LIGHTING IN 1898.

The association has been able to maintain its private lights in the Detroit river during the year 1898 at practically the same price which was paid for the service in 1897. The total expenses for lighting in 1898 were $2,909.00. No further reduction in this expense can be made. All the lights maintained are in Canada, where our own government cannot undertake their maintenance. The meeting of the International Commission to settle controversies between Canada and the United States presented a favorable opportunity for the association to urge upon the American commissioners at the conference, the insertion of a provision in any final agreement or treaty arrived at, by which the Canadian government would undertake the maintenance of the lights on the Canadian side of the international waterway, which are so necessary that vessel owners have maintained them out of their own pockets for nearly fifteen years past. The association, however, had another matter of more importance to present to the commissioners, and as some of its members thought that it was better to concentrate the work of the association upon the one thing hereinafter referred to, the opportunity to urge the Canadian government to maintain our private lights was permitted to pass by.

For several years past members of the association have been importuned by light speculators maintaining private lights in the St. Mary's river to contribute so much per boat for the maintenance of their lights. Several of these lights are necessary, others are not. It is the policy of the Lake Carriers' Association to assume the maintenance of all private lights which are deemed necessary, and a portion of the speculators' lights in the St. Mary's river would have been taken over by the Lake Carriers' Association and maintained during the past season, had the officers of the association not had reason to expect that lighted buoys would be put in position during the season by the United States government which would do away with the necessity for the private lights. The officers of the association now have reason to expect that these lighted buoys will be put in position by the government at the beginning of next season, and that all questions connected with these lights will be solved in this way. It is recommended, however, that the annual meeting discuss the matter of these lights in the St. Mary's river with a view to determining which are necessary and the adoption of a resolution instructing the committee on aids to navigation to contract for any private lights in the St. Mary's river which may be deemed essential to safe navigation for the period which may intervene between the opening of navigation next season and the assumption of these lights or other lights which will do away with the necessity for them, by the United States government.

AIDS TO NAVIGATION.

The committee on aids to navigation of the association has been somewhat disappointed in the result of their efforts during the past year to secure additional aids to navigation on the lakes. The coasts of the lakes are now generally well provided with lights and fog signals. The long list of necessary aids to navigation which was submitted to the light-house board by the association in 1896 has been for the most part provided for by congress since that date. With the exception of a light and fog signal on Middle Island (Lake Huron), Rock of Ages (Lake Superior), and one or two other points of less importance, no expensive aids to navigation are now being urged upon the light-house board and congress by the association. Our efforts during the past year have been largely directed towards the obtaining of an additional supply of lighted buoys, and the success which was confidently expected in this particular has not been obtained. When the sundry civil appropriation bill was pending in the last congress, the officers of the association sought to have a provision inserted in it appropriating a certain sum of money for gas buoys to be used on the lakes. The practice of the light-house board, however, is to ask from congress an appropriation of a lump sum for the entire buoyage service of the country, and the light-house authorities are inclined to oppose any provision by which they are compelled to expend any particular portion of the general appropriation for buoyage in any special locality. They desire to retain their freedom to make expenditures for buoyage in any part of the United States where they may deem it most needed. Our request for a specific appropriation for gas buoys on the lakes was opposed by the officers of the light-house board, who requested that instead of such specific appropriation, the general appropriation for buoyage be made sufficiently large to cover all needs of the service, including a supply of gas buoys for lake use. Accordingly the sundry civil appropriation bill was amended in the senate by increasing the appropriation for general buoyage to the full amount of the estimate submitted by the light-house board, it being the understanding that this amount was sufficiently large to provide additional gas buoys for the lakes. Nevertheless, although the light-house board has in its hands sufficient funds to permit them to purchase gas buoys for lake use, and although we have urgently requested the board to do this, no gas buoys have been purchased out of this last appropriation for buoyage, either for the lakes or elsewhere. So far as the lakes are concerned, the reason given for this by the light-house authorities is that the light-house tenders on the lakes have now all that they can possibly do to attend to their regular duties and to the gas buoys now in use. If more gas buoys are sent to the lakes, the board say they must have better facilities for handling them. Either a new light-house tender must be built for the ninth district, which is now especially deficient in facilities for handling gas buoys, or a new boat for light-house service on the lakes in the nature of a general supply boat must be provided, the duties of the boat to consist of carrying coal and oil to the light-house and fog signal stations, with a gas supply for gas buoys, and the placing and removing of buoys at the opening and closing of navigation. Such a boat should have sufficient hold room to carry a large tank for gas, from which the buoys can be filled without taking them out of position, and also sufficient room to carry a number of gas buoys at once to and from their stations in the spring and fall. As the government of the United States purchased a large number of vessels at the beginning of the war, for which they have had no use since the war closed, it was thought by the officers of the association that possibly one of these vessels might be obtained for light-house service on the lakes, and so the delays incident to getting an appropriation for a new light-house tender avoided. This suggestion was made to the light-house board, and it is understood that they looked over the supply of vessels available with a view to finding one which would be suitable for this service on the lakes. They reported, however, that the government had no vessel which was suitable for the service. As the matter stands, therefore, the future efforts of the association will be directed, first, towards obtaining from congress an appropriation for a new light-house vessel on the lakes, suitable in all respects for the service, and second, towards getting the government to place at the earliest possible moment such additional gas buoys as are most urgently needed, without waiting for the completion of the new tender. A recent conference with the light-house authorities gives reason to hope that the board may see its way clear to send a number of gas buoys to the lakes at the beginning of next season, and endeavoring to take care of them temporarily with the resources now at the command of the department.

WELLAND CANAL TOLLS.

The very low rate at which grain has been carried to Lake Erie ports during the past two seasons, and the increasing size of the vessels in that service, has made it impossible for vessels which are able to pass through the Welland canal to compete with the Lake Erie route. Besides the limit in the size of vessels and the available draft which the Welland canal imposes, the severe tolls which are exacted both on vessels and cargoes passing through the canal have proved a serious obstacle to the expansion of its traffic. It was thought by a large number of the members of the association that if the abolition of tolls on the Welland canal could be obtained, the canal route would afford employment to an increased number of the small vessels on the lakes for which it has been so difficult to find profitable employment. The sitting of the International Conference at Quebec offered an opportunity for action upon this question, and at a meeting held in Cleveland in June last, the whole matter was discussed and steps taken for the appointment of a committee whose duty it should be to submit to the American commissioners at the International Conference the request of the Lake Carriers' Association that the abolition of the Welland canal tolls be one of the concessions made by Canada to the United States, to be included in any agreement reached by the International Conference. A careful brief on the subject was prepared and the counsel of the association appeared before the

American commissioners at Washington and submitted an oral argument in addition to this brief on the subject. As the commission has not yet arrived at an agreement, it cannot be foretold what action, if any, will be taken on this subject.

LEGISLATION FOR THE BENEFIT OF AMERICAN SHIPPING.

The last annual report made mention of the fact that a committee of the Lake Carriers' Association, consisting of Mr. F. J. Firth, the counsel of the association and the secretary, had taken part in the conference between leading American ship builders and the vessel interests on the coasts of the United States, with a view to preparing a bill which should command the support of congress, for building up an American merchant marine in the foreign trade. At the time of the last annual report a preliminary conference had been held. The form of the bill had not yet been agreed upon. During the past year further meetings of your committee with the other interests named, have been held with the result that a bill has finally been prepared by the Hon. George F. Edmonds, counsel of the organized committees, which it is believed will not only command the support of the public, but is adequate to produce the results aimed at, viz: the building of a large number of vessels with American capital and in American ship yards, which will take and hold part of the foreign trade which is now almost entirely monopolized by vessels flying foreign flags. The completion of the bill and its introduction in congress were somewhat delayed by the Spanish-American war, but a bill has been introduced in the senate by the Hon. M. A. Hanna and in the house of representatives by Hon. Sereno E. Payne within the past month. Hearings have been had before the committee on commerce in the senate and the committee on merchant marine in the house of representatives, at both of which representatives of the Lake Carriers' Association were present. A strenuous effort is to be made to pass the bill.

WAR REVENUE LAW.

The new revenue legislation enacted by congress to provide additional revenue caused by the expense of the war, contained among other things a provision taxing charters of vessels. The provisions of this act were interpreted by customs and revenue officials in various ways, and as no judicial interpretation of this provision of the law has ever been made, it is somewhat difficult to estimate what its effect upon our lake vessels would have been. If the tax were held to be applicable only to charters made in writing the tax paid by lake vessel owners in the course of the year would probably not have exceeded $50,000. Some of the customs officials held, however, that the tax was applicable to all charters, and that when the actual charter of the vessel itself was not made in writing, stamps to the amount of the tax would have to be affixed nevertheless to some document, perhaps manifest or clearance papers, it being held that for every charter of a vessel on the lakes, whether oral or in writing, the amount of the stamp tax would have to be paid in some way. Under this interpretation of the law the purpose and character of this tax upon lake vessels would have been appalling, and it has been estimated that it would have reached a sum as great as $250,000 each year. In June last the counsel of the association was requested by the executive committee to make a thorough investigation of the provisions of the war revenue law. In response to this request the counsel of the association spent about two weeks in Washington, and some time after his return, the treasury department promulgated its decision, based upon the brief prepared by the association's counsel in behalf of the association, to the effect that the charter tax imposed by the war revenue law of 1898 was not applicable to vessels engaged in the lake and coastwise trade. The association's counsel obtained this very important decision in his favor after overcoming many obstacles. The contention on which he finally succeeded, viz: that the war revenue act applied only to "registered" tonnage, and that the lake vessels were "enrolled and licensed" and not "registered," when first presented to the officials of the treasury department, was pronounced untenable. In spite, however, of the discouraging reception given to his arguments in the first instance, the association counsel finally succeeded in getting the matter referred to the attorney general of the United States for opinion. He presented to that official an elaborate brief, which was sufficiently convincing to secure a decision in his favor. By this decision he saved to the vessels of the Great Lakes the payment of an annual tax of a very burdensome character. It is a matter of gratification to us that the burden of this tax was also taken from the vessels in the coastwise trade on the ocean coasts of the United States, although the vessels engaged in that trade apparently had made no effort to be relieved of the tax, and the decision relieving them therefrom was made wholly upon the argument and brief presented to the attorney general of the United States by the counsel of the Lake Carriers' Association.

LIBELING VESSELS ON SMALL CLAIMS.

Two years ago, at the annual meeting, one of the questions which was brought up for consideration was the practice of blackmailing vessels by libeling them just as they are leaving port or at some out of the way place and unusual time, perhaps a Saturday afternoon or evening, for the purpose of forcing the vessel to pay unjust claims. The provisions of the law which permit a vessel to be libeled on a small claim, however unfounded, and make it impossible for the vessel to be relieved from process, except by giving a bond, such as is required by the practice of admiralty courts, have built up quite a business of blackmailing vessels in this way, it being well understood by the claimants in such cases and their attorneys, that a vessel will pay a small claim, however unjust and unfounded, rather than submit to the delays necessary to release herself by bonding. This practice has not been confined to the Great Lakes, but it has been in force on the Atlantic coast. An instance is related where a New York and Long Branch steamer was stopped at 1 o'clock on Saturday afternoon, after the courts had closed, with 1,000 passengers on board. In another case a New York ferry boat, plying between New York and Jersey City, was libeled after she was fully laden with teams and trucks and passengers, and permission was not only refused the ferry boat to make her trip across the river and back again, but she was even prevented from leaving the slip to turn around so that her trucks and wagons could be easily discharged. The passengers were obliged to leave the boat and the trucks and wagons were obliged to back out one by one. For some time efforts have been made by the officers of the Lake Carriers' Association in connection with the officers of the National Board of Steam Navigation in New York, to agree upon the form of a measure to put an end to this iniquitous practice. A bill was finally prepared by the National Board of Steam Navigation which was submitted to congress, but it embraced some matters other than those above referred to and met with serious objection. Steps were taken to strike out the objectionable matter from the bill, and finally a bill was prepared which was approved by the counsel of the National Board of Steam Navigation and the counsel of the Lake Carriers' Association. This bill was introduced and referred to the committee on judiciary in the house of representatives. Without following exactly the lines of this measure, a substitute bill was reported by the committee on judiciary which will remedy the evil complained of. The bill simply allows vessels to give a bond in advance, which bond shall secure their immediate release under regulations to be prescribed by the district court, until the amount of claims for such process has been issued and is pending against such vessel shall equal one-half the amount of the bond so given in advance. In other words, a vessel may file, under regulations to be made by the court, a bond of $5,000, and until claims against such vessel amounting to at least $2,500 are pending, the vessel will be entitled to immediate release from any and all admiralty processes without filing an additional bond. It will be seen that this bill does not abridge the rights of creditors in admiralty or the right of seizure. Claimants are entitled to have full security for their claims. But if such security is given, and such is the case where the bond is filed in advance, that is all they can fairly require. The seizure of the vessel and the subsequent giving of bond is solely for the purpose of affording the claimant security and if the vessel owner chooses to give such security in advance, the claimant has no cause for complaint. This bill has passed the house of representatives and is now pending in the senate. It is not apparent how there can be any reasonable opposition to it and the necessary attention will be given to it to see that it is not forgotten. It is confidently expected that it will become a law before the close of the present session of congress.

LAKE LEVELS.

In view of such controversy during past years on the question of whether the lake levels were being permanently lowered, either by reason of channel improvements or climatic changes, the secretary of the association has, during the past year, obtained monthly reports of government observations of lake levels taken at the different lakes, with a view to tabulating the same and keeping records, which, after they have been kept a sufficient length of time, will tend to show whether important changes are going on affecting the available draft of water in the lake channels and the carrying capacity of lake vessels. The tabulated statement showing the records since the opening of navigation last spring is presented herewith:

	Comparative level by months.		Mean level of lake during entire period of observat'n.	Above or below corresponding month in 1897		Above or below general average lake level.	
	1898	1897		Above.	Below.	Above.	Below.
LAKE SUPERIOR.							
April	600.90	601.55	601.46	.....	.65	.....	.56
May	601.12	601.89	.....	.....	.77	.....	.34
June	601.62	602.22	.....	.....	.60	.16	.....
July	602.03	602.52	.....	.....	.49	.57	.....
August	602.16	602.64	.....	.....	.48	.70	.....
September	602.26	602.58	.....	.....	.32	.80	.....
October	602.20	602.38	.....	.....	.18	.74	.....
November	602.00	602.08	.....	.....	.08	.54	.....
December	601.77	601.65	.....	.12	.....	.31	.....
LAKE MICHIGAN.							
April	580.10	579.50	581.16	.60	.....	.....	1.06
May	580.38	579.99	.....	.39	.....	.....	.78
June	580.51	580.26	.....	.25	.....	.....	.65
July	580.49	580.45	.....	.04	.....	.....	.67
August	580.29	580.39	.....	.....	.10	.....	.87
September	579.94	580.14	.....	.....	.20	.....	1.22
October	579.93	579.85	.....	.08	.....	.....	1.23
November	579.52	579.59	.....	.....	.07	.....	1.64
December	579.18	579.37	.....	.....	.19	.....	1.98
LAKE HURON.							
April	580.00	579.40	581.06	.60	.....	.....	1.06
May	580.12	579.97	.....	.15	.....	.....	.94
June	580.28	580.21	.....	.07	.....	.....	.78
July	580.38	580.39	.....	.....	.01	.....	.68
August	580.27	580.40	.....	.....	.13	.....	.79
September	580.08	580.14	.....	.....	.06	.....	.98
October	579.77	579.79	.....	.....	.02	.....	1.29
November	579.69	579.67	.....	.02	.....	.....	1.37
December	579.50	579.37	.....	.13	.....	.....	1.56
LAKE ERIE.							
April	572.862	572.323	572.86	.539	.....	.002	.....
May	572.98	572.79	.....	.19	.....	.12	.....
June	572.991	572.843	.....	.148	.....	.131	.....
July	572.766	572.812	.....	.....	.046	.....	.094
August	572.656	572.642	.....	.014	.....	.....	.204
September	572.35	572.292	.....	.058	.....	.....	.51
October	572.089	571.837	.....	.252	.....	.....	.771
November	72.05	571.979	.....	.071	.....	.....	.81

It shows that on Lake Superior the stage of the water during the past season has been materially above the average of the twelve years during which regular observations of the stage of the water on that lake have been made. Lakes Michigan and Huron have stood during the past year about one foot below the general average of the past twenty-eight years, while Lake Erie has not greatly varied from the general average level of that lake for twenty-eight years past. So far as they go, these results tend to confirm what the engineer officers in charge of channel improve-

ments on the lakes have always contended, viz: that the changes in the lake levels from year to year have been produced solely by variations in annual rain fall on the area included in the lake water shed, and that the extensive channel improvements made in late years have not in any respect produced the lowering of lake levels. The fact that, taking all the lakes together, the stage of water during the past year has been very close to the average stage of water during the considerable periods covered by the observations of the government, also tends to show that no climatic changes have been going on which have materially impaired the lake water supply. When the Chicago drainage canal goes into operation, a new outlet for Lake Michigan and Lake Huron will be created, which must necessarily affect the level of those lakes to some extent.

The attention of the association has also been directed during the past few months, to a commercial undertaking at the Sault Ste. Marie which must be carefully watched to prevent disastrous effects on the lake levels of Lake Superior, and the available draft of water through the St. Mary's Falls canal. A power company is now engaged in building a canal for the development of water power at the Sault, which is to take water from the St. Mary's river above the ship canal, and discharge it again to the river below. The capacity of this canal is so great that if the full amount of its estimated capacity is drawn through it, it will provide an additional outlet from Lake Superior, which will materially lower the levels of that lake unless the flow of water through the river proper above the rapids is materially checked by the building of compensatory dams. The government of the United States has expended in the neighborhood of the Sault fully $10,000,000 to increase the available draft of water from Lake Superior. It is inconceivable that the public authorities should permit the value of these improvements to be materially impaired by a private enterprise. The existing laws give to the secretary of war full right to prevent any person or company from impairing the capacity or decreasing the navigability of the navigable waters of the United States. It would seem that he has full authority to prevent the proposed power canal from creating an additional outlet from Lake Superior, which would materially lower the water in that lake, until they have built sufficient structures in the natural channel of the St. Mary's river above the rapids to diminish the flow of water through the natural course of the river by as much as the capacity of the power canal. The possible damage to the lake interests in this instance are so great that the matter will have the most careful attention of the officers and managers of the association.

ROUTES FROM THE LAKES TO THE SEABOARD.

During the past twelve months little of importance has developed in this matter, but the coming year is likely to be full of interest. September, 1899, is now the date set for the completion of the St. Lawrence river canals, and unless unexpected delays occur, vessels carrying 75,000 bushels of wheat will be able to proceed to Montreal and Quebec.

The preliminary report of the commission of engineers appointed to make surveys for ship-canals from the lakes to the sea, with estimates of cost, will be published during the next three months.

The improvements of the Erie canal, undertaken by the State of New York, and for which an appropriation of $9,000,000 was made by the state, have for the time being, come to a stop. The $9,000,000 has been spent, and it is now estimated that it will require $13,000,000 more to complete the improvements. The question now agitated is whether the canal will be able to command a large volume of business when the contemplated improvements are finished, or whether some provision for a further increase of the size of the canal and the lengthening and widening of the locks shall also be made a part of the work of improvement. In his message to the New York state legislature, Governor Roosevelt was noncommittal as to the policy he should follow in respect to canal improvement. He told the legislature that he expected to communicate later in a special message on this subject. Meantime the various interests in the state of New York who believe in the future of the Erie canal and desire an effective improvement are in consultation with a view to devising a plan which will command the support of the people of the state.

The purchase of the Erie canal from the state of New York by the general government, and its adequate improvement into a barge canal, which is the plan so earnestly advocated by Maj. Symons in a valuable report to the war department, will also doubtless come up for discussion when the report of the engineers who are surveying for a ship canal is presented to the war department.

GRAIN BILL OF LADING.

The most important matter to come up before the annual meeting of the Lake Carriers' Association is a change in the form of the grain bill of lading now in use on the lakes. In many respects the conditions which prevailed in the grain carrying business have undergone severe change since the present bill of lading went into use. The objection to the present bill of lading may be considered three in number: First, there is a strong opposition to the rule relating to overruns and shortages. Second, the present bill of lading is strenuously objected to, because under it vessels are compelled to submit to long delays for which they receive no compensation. Third, the increasing size of the vessels has lead to another important change in grain carrying conditions. Formerly the rule was for a vessel to carry a single consignment of grain. At the present time, in the fall of the year, when the large ore carriers go into the grain trade, a single consignment on these vessels is a rare occurrence. One large vessel arrived in Buffalo last season with ten consignments of grain, and the consignees desired that the vessel go to nine different elevators to unload her cargo. It is a very common occurrence for a vessel to be obliged to go to three or four different elevators to unload. This involves the vessel in much extra expense, as well as in considerable loss of time. There is a feeling among vessel owners that abuses have crept into the grain carrying trade, and that considerations of very small importance to the shippers and consignees of grain are permitted to involve the vessel in serious delays and great losses.

At the suggestion of some members of the association, and in the interest of full information on this subject at the annual meeting, the secretary has recently sent out two circular letters on this subject. He has called upon the members of the association for a statement of their experience in the grain trade during 1898 with reference to overruns and shortages, and also with reference to extra towing expenses caused by the unloading of single cargoes at different elevators. The answers to this circular letter have been tabulated, and the tabulated statement will be ready for the committee on grain bill of lading, if such committee is appointed at the annual meeting. It is a well known fact that grain shortages every season exceed the overruns. The annual report of Junius S. Smith, official weighmaster of the Buffalo Merchants' Exchange, shows that during the season of 1898 there was received at Buffalo 221,300,000 bushels of grain, of which Mr. Smith weighed 126,000,000 bushels. On this amount the shortages were 72,713 bushels, and the overruns, 40,346 bushels. Assuming that the 98,000,000 bushels of grain received at Buffalo which were not weighed by Mr. Smith, showed similar results, the total excess of shortages over overruns at Buffalo in 1898 was about 57,000 bushels.. At an average value for all kinds of grain of 50 cents a bushel vessels were compelled to pay for shortages at Buffalo in 1898, $28,500 more than they received for overruns. It is probable that most vessel owners who read this statement will be surprised that the excess of shortages was not larger than it really is. They will remember some of their own unpleasant experiences in paying for shortages, but the figures just given tend to show that the opposition of vessel men to the present rule relating to overruns and shortages is not so much due to the severity of the loss incurred by them, as to its unequal distribution. It is quite conceivable that a fleet of vessels engaged in carrying grain to Buffalo might come out ahead in the season, under the present practice, while another fleet of equal size might come out $5,000 behind.

The other circular letter sent out on this subject was sent by the secretary to all the principal shippers of grain at western lake ports, to the agents of the railroads to whom the grain is consigned at Buffalo, and to the principal receivers and exporters of lake grain in eastern seaboard cities. This circular called attention to the various points in which vessel owners complained of the present bill of lading, informed them that the subject would be the principal subject to be discussed at this annual meeting of the association, and invited them, as interested parties, to attend the meeting at Detroit or have some one in Detroit to represent them. The difficulties connected with a satisfactory settlement of the question are well known to be many and great. It is probable that it will have to be thoroughly discussed at Detroit from a vessel owners' point of view and then given into the hands of a special committee, which will have to take it up with the railroad people and particularly with the eastern receivers of grain.

DETROIT RIVER BRIDGE.

During the past year the association has had little to do in connection with this matter, but as the year closes it becomes probable that it will again engage the attention of the new board of managers. Two bills have been pending before congress for the construction of railway bridges across the Detroit river—senate bill No. 4878, which was prepared in the interest of the Michigan Central Railroad, and senate bill No. 4278, which is the bill prepared by the Wabash and Grand Trunk interests. Both of these bills provide for bridges of substantially the same character as that which was opposed by the Lake Carriers' Association when the Michigan Central Railroad recently tried to obtain congressional sanction for a bridge having piers in the river. During the past few days it has been reported in the public press that the different railroads have settled their differences, and that they were now prepared to join in an effort for a single bridge across the river. It has been reported that a new bridge bill has been introduced in congress. Confirmation of this information has not been obtained up to the time of preparing this report. Should the matter take such form at Washington as to require the attention of the association, members may rest satisfied that the counsel of the association will take every necessary step to see that their interests are looked after and cared for.

When the annual report is printed, there will be found in connection with this report, the annual report of the treasurer, an alphabetical list of the names, addresses and tonnage of the members of the Lake Carriers' Association, and an alphabetical list of the vessels enrolled in the association during the past year.

Respectfully submitted by the board of managers,

JAMES S. DUNHAM, President,
CHARLES H. KEEP, Secretary.

Office of the Lake Carriers' Association, Buffalo, N. Y., Jan. 20, '99.

TUG OWNERS' ASSOCIATION.

In accordance with an invitation sent out several days ago from Cleveland, representatives of nearly all the tug lines on the lakes met at Detroit, Wednesday afternoon, to consider the matter of the formation of an organization for mutual benefit. Such an organization was formed, to be known as the Tug Association of the Great Lakes, and J. S. Dunham of Chicago was elected president, and W. A. Collier of Cleveland secretary and treasurer. All of the towing companies on the lakes except the Buffalo lines applied for and were admitted to membership. The new organization corresponds in scope to the Lake Carriers' Association. No effort will be made to regulate rates nor will local agreements be interfered with, although it will be the duty of the association to endeavor to arbitrate local differences. The officers are to constitute a committee to report a constitution and by-laws at the next meeting. Meetings will be held annually at the same time and place as the Lake Carriers' gatherings. Dues will not, of course, be fixed until the next meeting. Each member has, however, paid in a nominal sum to defray the expenses of the current year. It is expected that a great many matters of mutual interest to the tug owners may be taken up to advantage by the new organization.

Immediately following the presentation of the thousand-dollar clock to Mr. Harvey D. Goulder by the Lake Carriers at Detroit, one of the vessel men who let Mrs. Goulder into the secret in advance of the Detroit meeting, telegraphed her as follows: "Presentation of testimonial to your husband was a grand success. This is the happiest day of his life, excepting his wedding day." Mrs. Goulder's reply was: "To each member of the association, health, happiness and a life-time of the joy that is mine today."

FINANCES OF THE ASSOCIATION.

ANNUAL REPORT OF GEORGE P. MC KAY, TREASURER, IN ACCOUNT WITH THE LAKE CARRIERS' ASSOCIATION, COVERING THE FISCAL YEAR ENDING JANUARY 16, 1899.

RECEIPTS

Balance on hand from 1897		$ 77.18
Tonnage dues for 1897	$ 5.72	
Tonnage dues for 1898	17,693.41	
		17,699.13
For railroad fare for seamen		3.80
Loan from Union National Bank of Cleveland		1,000.00
		$ 18,780.11

DISBURSEMENTS.

Salaries:		
C. H. Keep, secretary, balance of 1897	$1,000.00	
C. H. Keep, secretary, on account 1898	800.00	
Geo. P. McKay, treasurer, balance of 1897	400.00	
Geo. P. McKay, treasurer, on account 1898	650.00	
H. D. Goulder, attorney, balance of 1897	800.00	
H. D. Goulder, attorney, on account 1898	600.00	
		4,250.00
Incidentals, secretary's office	85.38	
Incidentals, treasurer's office	25.74	
		111.12
Salaries of shipping masters:		
A. R. Rumsey, chief shipping master, Cleveland, balance of 1897	1,000.000	
A. R. Rumsey, Cleveland, in full for 1898	2,000.00	
Wm. F. Wall, assistant, Cleveland, in full for 1898	700.00	
William Fletcher, Buffalo, in full for 1898	900.00	
Dan Harrington, Ashtabula, in full for 1898	680.00	
Patrick Mitchell, Toledo, in full for 1898	600.00	
William Lennon, Milwaukee, in full for 1898	900.00	
J. W. Hanson, Chicago, in full for 1898	1,000.00	
Robert Anderson, assistant, Chicago, in full for 1898	640.00	
Frank Brown and M. P. Felt, South Chicago, in full for 1898	600.06	
		9,020.00
Expenses of shipping offices:		
Cleveland:		
Rent in full, April 1, 1898 to Jan. 1, 1899	$ 93.75	
Telephone, Oct. 1, 1897 to Jan. 1, 1899	72.00	
Telephone, chief shipping master's residence	45.00	
Telephone, assistant shipping master's residence	45.00	
Changing telephone at chief shipping master's residence	3.00	
Provisions, groceries, etc	258.39	
Office supplies, printing, incidentals	235.50	
Improvements and repairs	39.33	
	791.97	
Buffalo:		
Rent, Jan. 1, 1898 to Jan. 1, 1899	200.00	
Telephone, May 15, 1898 to Nov. 15, 1898	15.00	
Office supplies, fuel, etc	27.53	
	242.53	
Ashtabula:		
Rent, April 1, 1898 to Oct. 1, 1898	50.00	
Office supplies, fuel, etc	14.35	
	64.35	
Toledo:		
Rent, April 1, 1898, to Oct. 1, 1898	50.00	
Office supplies, fuel, etc	17.95	
	67.95	
Milwaukee:		
Rent, April 1, 1898, to July 1, 1898	25.00	
Office supplies, fuel, etc	17.50	
	42.50	
Chicago:		
Rent, Feb. 1, 1898, to Oct. 1, 1898	240.00	
Telephone	83.11	
Water rent	10.70	
Office supplies, fuel and other expenses	77.93	
	411.74	
South Chicago:		
Rent, April 15, 1898, to Sept. 15, 1898	82.50	
Telephone calls	8.40	
Office supplies and incidentals	20.94	
	111.84	
		1,732.88
Extraordinary Expenses:		
Maintaining private lights at Lime-Kiln Crossing and Amherstburg		2,700.00
Account printing and stationery for offices of secretary and treasurer, printing wage cards, president's annual report and Canadian canal tolls		202.00
Account telegraphic service		119.00
Interest on four months' note paid by A. R. Rumsey		17.00
Railroad fare for seamen	3.80	
Traveling expenses, C. H. Keep, secretary, Buffalo to Cleveland and return, account Dec. 15, 1897	13.70	
Traveling expenses, C. H. Keep, Buffalo to Cleveland and return, account grain shoveling committee	8.50	
Traveling expenses, C. H. Keep, secretary, Buffalo to Philadelphia and New York and return	34.00	
Traveling expenses of J. J. H. Brown, Buffalo to Cleveland and return, account grain shoveling committee	19.50	
Traveling expenses of C. H. Keep, secretary, to Washington and return, account aids to navigation	80.00	
Traveling expenses of James Davidson, West Bay City to Buffalo and return, account grain shoveling committee	25.60	
Capt. J. S. Dunham, traveling expenses Chicago to Bay City, account endeavoring to secure new members for association	30.00	
Traveling expenses of Harvey D. Goulder to Washington and return, account war tax on vessels	100.00	
Livery, account aids to navigation	3.00	
Traveling expenses of A. R. Rumsey, visiting shipping offices, by order of chairman of finance committee	75.00	
Traveling expenses of Geo. P. McKay, treasurer, to Detroit and return, account rules governing Middle Neebish Dyke, Sault river	8.00	
Three first-class tickets, Sault Ste. Marie to, Detroit, by request of H. D. Goulder, counsel.	24.00	
Traveling expenses, C. H. Keep, secretary, Buffalo to Cleveland and return, account grain shoveling committee	9.10	
Traveling expenses, C. W. Elphicke, Chicago to Cleveland and return, account grain shoveling	23.00	
Traveling expenses of Capt. J. J. H. Brown, Buffalo to Cleveland and return, account meeting of executive committee to abolish Canadian canal tolls	3.00	
Capt. J. S. Dunham, traveling expenses, Chicago to Cleveland and return, account Canadian canal tolls	27.00	
Expenses of H. D. Goulder at Buffalo, account internal revenue tax on bills of lading	84.24	
Traveling expenses of C. H. Keep, secretary, Buffalo to Cleveland and return, account Welland canal tolls	6.25	
Traveling expenses of C. H. Keep to Cleveland and return, fixing date of annual meeting	13.55	
		587.44
Total disbursements		$18,743.24
Balance on hand		36.87
		$18,780.11

In addition to the foregoing, I have to report the following unpaid liabilities:

To Salaries:		
C. H. Keep, secretary, balance due for 1898	$ 1,200.00	
Geo. P. McKay, treasurer, bal. due for 1898	350.00	
H. D. Goulder, counsel, balance due for 1898	400.00	
		$1,950
To private lighting:		
Andrew Hackett, balance due for 1898	100.00	
Duff & Gatfield, balance due for 1898	100.00	
		200.00
Chicago:		
Rent, October and November, 1898	60.00	
Expenses	31.05	
Fuel	9.25	
Telephone	34.55	
South Chicago:		
Rent, Sept. 15, to Dec. 15, 1898	45.00	
Expenses	24.67	
	204.52	
Less rebate, account overcharge	6.09	
		198.43
		$2,348.43
To note due Union National Bank, Cleveland		1,000.00
		$3,348.43

Respectfully submitted,
(Signed) GEO. P. McKAY, Treasurer.

Directors and officers of the two transportation companies controlling the Gilchrist fleet of vessels of Cleveland are as follows: Lake Shore Transportation Co.—J. C. Gilchrist, C. P. Gilchrist, R. E. Schuck, J. E. Schuck and Lewis Woodruff, directors; J. C. Gilchrist, president and treasurer; R. E. Schuck, vice-president; C. P. Gilchrist, secretary. Gilchrist Transportation Co.—J. C. Gilchrist, F. W. Gilchrist, N. J. Gilchrist, R. E. Schuck and W. H. Gilchrist, directors; president and treasurer, J. C. Gilchrist; vice-president, R. E. Schuck; secretary, A. J. Gilchrist.

OUTPUT OF 14,029,682 TONS.

SHIPMENTS OF LAKE SUPERIOR ORE MINES, LAKE AND RAIL, DURING 1898—RAIL SHIPMENTS AGGREGATE 374,250 TONS.

In December last the Review presented a statement showing the shipments of iron ore by lake from the different ports during 1898. Now we have at hand reports from all the mines showing rail shipments as well as water shipments, thus giving the entire output for the year—14,029,682 gross tons, of which 374,250 tons was moved by rail. Following are the tables giving the output of each mine, as well as the shipments by ports and by ranges.

MARQUETTE RANGE.

MINE.	GROSS TONS.	MINE.	GROSS TONS.
Cambria	102,623	Negaunee	191,330
Champion	163,190	Princeton	25,247
Cleveland Cliffs	869,482	Queen	61,022
Jackson	55,012	Republic	140,312
Lake Angeline	460,333	Richmond	24,464
Lake Superior	686,563	Winthrop	122,592
Lillie	211,023		
Lucy	11,846	Total	3,125,039

MENOMINEE RANGE.

MINE	GROSS TONS.	MINE.	GROSS TONS.
Antoine	104,510	Great Western	33,851
Aragon	295,821	Hemlock	69,865
Chapin	724,768	Loretto	68,447
Columbia	14,199	Mansfield	60,739
Commonwealth	250,687	Mastodon	5,009
Crystal Falls	128,233	Millie	17,430
Cundy	76,877	Penn Iron Mining Co	223,713
Dober	5,009	Pewabic	305,072
Dunn	49,381		
Florence	93,663	Total	2,527,274

GOGEBIC RANGE.

MINE.	GROSS TONS.	MINE.	GROSS TONS.
Anvil	5,037	Newport	196,953
Ashland	123,208	Norrie	700,990
Atlantic	38,058	Pabst	223,891
Aurora	133,076	Palms	175,925
Brotherton	73,198	Shores	15,691
Cary	43,162	Tilden	287,203
Colby	152,875		
Iron Belt	58,418	Total	2,498,461
Montreal	270,776		

VERMILLION RANGE.

MINE.	GROSS TONS.	MINE.	GROSS TONS.
Chandler	715,919	Pioneer	123,183
Minnesota	426,040		
		Total	1,265,142

MESABI RANGE.

MINE.	GROSS TONS.	MINE.	GROSS TONS.
Adams	590 860	Mahoning	520,751
Auburn	235,630	Mountain Iron	650,955
Biwabik	383,180	Norman	110,141
Commodore	80,494	Ohio	101,607
Day	18,651	Oliver	349,100
Duluth	112,155	Penobscot	29,652
Elba	564	Pillsbury	99,691
Fayal	575,933	Sellers	112,765
Franklin	200,400	Sparta	226,156
Genoa	279,677		
Lake Superior Group	135,404	Total	4,613,766

SHIPMENTS BY RANGES.

	1897. GROSS TONS.	1898. GROSS TONS.
Marquette Range	2,715,035	3,125,039
Menominee Range	1,937,013	2,527,274
Gogebic Range	2,258,236	2,498,461
Vermillion Range	1,278,481	1,265,142
Mesabi Range	4,280 873	4,613,766
Total	12,469,638	14,029,682

SHIPMENTS BY PORTS AND ALL RAIL.

	1897. GROSS TONS.	1898. GROSS TONS.
Escanaba	2,302,121	2,803,513
Marquette	1,945,519	2,245,965
Ashland	2,067,637	2,391,088
Two Harbors	2,651,465	2,693,246
Gladstone	341,014	335,955
Superior	531,825	550,403
Duluth	2,376,064	2,635,262
All-Rail	253,993	374,250
Total	12,469,638	14,029,682

With the issue of next week, the annual ore supplement dealing with shipments during the past forty-four years will be published.

A circular issued under date of Jan. 24, by the Morgan Engineering Co. of Alliance, O., makes the following announcement regarding the sale of that company's product: "We have found it expedient and to the advantage of our customers to sell our product direct and not through agencies. We have therefore terminated the agreement existing between the Niles Tool Works Co. and ourselves, and until further notice all communications should be directed to the home office, Alliance, Ohio, where we have an able corps of representatives ready to give you immediate attention."

NATIONAL M. E. B. A.

THE CONSTITUTION REVISED AND OTHER IMPORTANT MATTERS TAKEN UP AT THE ANNUAL GATHERING AT WASHINGTON—THE PROCEEDINGS.

Washington, D. C., Jan. 24.—The national convention of the Marine Engineers' Beneficial Association which was held at Willard's hotel during the past week was well attended and the subjects under discussion were handled with a vigor that spoke well for the interest of the delegates. The principal business before the convention was the revision of the constitution. Some of the amendments adopted are quite elastic and will permit of greater freedom of action to the branch associations. It was decided that the national vice-president when elected from the Pacific coast is, if called upon, permitted to visit any of the Pacific coast associations at the expense of the national association. The advisory board must in future meet quarterly at the office of the national president to review the work of the three months and assist in outlining the work for the ensuing quarter. The revised constitution also makes the stipulation that two or more small associations—each with less than fifty members—may combine to send a representative to the national convention and the delegate shall have a vote for fifty members or less and if over fifty an additional vote.

The board of supervising inspectors of steam vessels met with the association, and the visit proved of mutual benefit, inasmuch as many suggestions were offered whereby the service might be improved as well as simplified. Much benefit was also derived from the remarks made on the occasion of the visit of Commodore George W. Melville, engineer in chief, U. S. N., Passed Assistant Engineers W. W. White, J. K. Robinson and E. Theiss, U. S. N., as well as others.

Messrs. W. J. Du Bois of New York, John E. O'Brien of San Francisco and James H. Taylor of Baltimore constituted the committee on credentials. At the election of officers for the ensuing year the secretary was instructed to cast one ballot electing unanimously George Uhler for national president. The same course was followed in electing F. A. Jones national vice-president. George A. Grubb was re-elected secretary and E. R. Blanchard was chosen treasurer. On the advisory board Messrs. Sterritt, Joseph P. Brady and Joseph Brooks were elected. An amendment was adopted making the per capita tax $1.25 for the year 1899. It was decided to encourage the establishment of a ladies' auxiliary.

The members in attendance with the respective locals which they represented were as follows: Wm. Nolan No. 1, Chas. Ogg No. 1, Evans Jenkins No. 2, W. H. Kennedy No. 2, E. R. Blanchard No. 3, Wm. A. Meddaugh No. 3, Ed. R. Dungan No. 3, E. E. Morris No. 4, Geo. A. Grubb No. 4, Chas. E. Frazier No. 5, Joseph P. Brady No. 5, James H. Taylor No. 5, J. A. Noble No. 9, Sam Hall No. 13, Joseph Brooks No. 13, J. McG. Sterritt No. 13, P. J. McDermott No. 13, L. W. Sheldon No. 33, W. F. Yates No. 33, W. J. Coutant No. 33, W. J. Du Bois No. 33, James Brown No. 33, P. E. Leahy No. 33, F. A. Jones No. 35, John E. O'Brien No. 35, E. D. Lock No. 37, Robt. A. Turner No. 38, Geo. H. Bowen No. 43, Hosea Harden No. 59, Geo. A. Nichols No. 59, Chas. H. Bennett No. 62, Henry C. Thompson No. 77, G. A. Grubb, proxy, No. 78, James L. Sweeney No. 81, Ed. Blanchard, proxy, No. 87, C. O. Chapman No. 88, Geo. A. Thrasher No. 92, C. W. Robinson No. 93 and E. W. Bray No. 101.

SHIP BUILDING IN BALTIMORE.

Ship building operations at Baltimore (Md.) yards during the past year exceeded in magnitude those of any former year in the history of the city, and the outlook for the ensuing year is most promising. During 1898 there were built forty-two vessels of various types aggregating 9,185 tons, the total value of which was $689,385, as against a total of thirty-nine vessels of 8,377 tons and $631,175 aggregate value, built in 1897. The Baltimore builders are at present at work upon twenty vessels, some of which are well on toward the launching stage.

The Review has noted at various times the contracts held by the Columbian Iron Works and the Maryland Steel Co., at Sparrow's Point, Md. Each have government contracts for torpedo boats or destroyers. The Columbian works are also engaged upon a United States revenue cutter, a sea-going tug and a passenger steamer, while the Maryland Steel Co. has work well under way on a tug for the Baker-Whitely Coal Co. of Baltimore and the new steamer for the New York & New Haven Steamboat Co.

Chas. Reeder & Sons are receiving the material for a steel side-wheel steamer, to be built for the Queen Anne Railroad Co. The barge building by William E. Woodall & Co. will be engined by the Campbell & Zell Co. The R. M. Spedden Co. has a contract for a 90-foot wooden tug for Capt. Clark of Norfolk, Va., and Thomas McCosker & Co. will soon begin work on a tug of similar dimensions for P. Dougherty & Co. Other work on the stocks or under contract includes a fishing steamer building by the E. J. Codd Co.; two large scows by Sanford & Brooks; a three-masted schooner by J. S. Beacham & Bro.; a harbor freight barge by William Skinner & Sons for the Baltimore & Ohio Railroad; a freight barge by Charles Rhoda for the Tunis Lumber Co., and a yacht by Leonard J. Nilson.

RIGHT KIND OF CLOSETS FOR SHIPS.

The United States transport Grant, which sailed Jan. 19 with troops for Manila, is equipped with sixty-three Kenney flushometers, installed by the Kenney Co., sole manufacturers, 72 Trinity Place, New York. The individual overhead tank for flushing water closets has long been undesirable for use aboard ship, the rolling of the vessel causing the water to spill and the supply of flush to be irregular and unreliable. With the Kenney flushometer system there is one large supply tank, which is located in the hold of the ship. From this the water is pumped at an even pressure through supply pipes to the flushometer attached to each closet. Here the supply is regulated to the demand, and flushing of the bowl is accomplished without wet floors, without noise, and in the most economical, thorough and satisfactory manner, let the vessel roll and pitch as it may. The Kenney Co. has placed their flushometer aboard a number of government vessels, it having received the hearty endorsement of the army and navy departments.

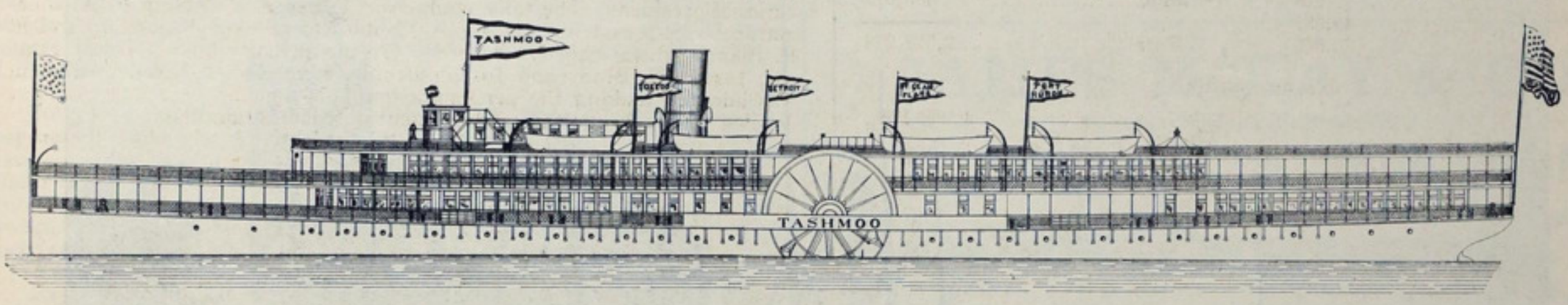
MAGNIFICENT RIVER STEAMER.

A SIDE-WHEEL EXCURSION BOAT FOR DETROIT AND ST. CLAIR RIVERS THAT IS PLANNED TO EQUAL THE FINEST OF THE HUDSON RIVER CRAFT.

Detroit, Mich., Jan. 25—Not all the details of the new Detroit-Port Huron day boat have as yet been fixed, but the contract with the Detroit Dry Dock Co. is sufficiently specific to warrant the prediction that she will rank with the best of the fine steamers of her kind on the Hudson. The vessel, an outboard view of which is presented herewith, will be owned by the White Star Line, a corporation recently organized by owners of the steamers Greyhound and City of Toledo, and of which B. W. Parker of Detroit is general manager. With an over-all length of about 340 feet, a width of 68 feet over guards, and four decks, this steamer is expected to carry close onto 4,000 passengers without great crowding, and to make 20 miles an hour, thus covering the round-trip distance between Detroit and Port Huron, and making the numerous stops at the pleasure resorts of the two rivers, in four or five hours less than any vessel that has as yet been engaged on this route. Practically the entire deck space, aside from dining room, will be given over to open passenger accommodations. Only a few state rooms will be provided for use in case of sickness of passengers or emergencies of any kind. In cabin arrangements and the general furnishing of the vessel no expense will be spared. An effort will be made to have the dining room especially elaborate, and another part of the vessel in which luxury is to be provided is a smoking room, 42 by 23 feet, which will be just aft of the pilot house, and which will have a glass roof and glass sides, the latter permitting of view all around the boat.

This steamer will be in operation for only about ninety days each season, but the passenger traffic to and from the famous summering places of the magnificent stretch of water between lakes Huron and Erie, a part of which is often spoken of as the Venice of America, will undoubtedly keep her fully engaged when she goes into commission, about June 1, 1900.

Hull dimensions of the new boat are not fully decided upon as yet, but she will be about 340 feet long over all, 36 feet beam, 68 feet over guards and 13½ feet moulded depth. Engines will be of the inclined, triple expansion type, designed to develop, with six Scotch boilers, each of 11 feet diameter, about 2,500 horse power.



DAY BOAT FOR DETROIT AND ST. CLAIR RIVER SERVICE—FOUR DECKS AND 20 MILES SPEED.

PORTAGE LAKE SHIP-CANALS.

A SHORT SUMMARY OF PROGRESS IN THE WORK OF DEEPENING AND WIDENING THE WATERWAYS OF THE COPPER REGION—DEPTH OF 18 FEET ALL THROUGH PORTAGE RIVER.

BY G A. MARR, ASST. U S ENGINEER

Since October, 1892, the waterway across Keweenaw point, Michigan, known as the Portage Lake ship-canals, has been directly in charge of Major Clinton B. Sears, corps of engineers, U. S. A., stationed at Duluth, Minn. Previous to 1896 only small appropriations had been made by congress for improving Portage Lake ship-canals, and hence only ordinary repairs could be made to piers and revetments, and the greater part of the funds had to be expended in keeping the channels open by dredging to somewhere near the capacity of the canal and river at the "Soo." But in 1896 the full amount asked for by a board of engineers was authorized by congress under the continuous contract system, and Major Sears immediately had plans and specifications prepared, and at present three contracts, two for pier work and one for dredging, are being prosecuted. A contract for building a breakwater for a harbor of refuge at the Lake Superior entrance to the upper canal was let to Porter Bros. of Duluth, and the work was begun early last season, and at the close about 1,100 feet of the breakwater on the west side was completed. As the foundations are now mostly prepared, work should proceed rapidly next season, this work to be completed at the close of navigation in 1900. The work consists of two breakwater piers, extending out in the lake on each side of the entrance to the canal to 31 feet depth of water, where there is to be an opening for entrance 400 feet in the clear between the outer ends of the piers, directly in front of the canal.

At the Keweenaw bay entrance a contract was let to Powell & Mitchell of Marquette, Mich., for extending the old pier out for 2,800 feet into Keweenaw bay to a depth of 20 feet of water. This work was begun early last season and at the close about 1,500 feet of the pier was completed. It is expected that this work will be entirely completed before the close of navigation the coming season. The contract for dredging was let to the Racine Dredge Co. of Racine, Wis., and work was begun early last season for deepening and widening the channels in Portage river, relieving the bends as much as possible, and also to deepen the upper canal and remove bars that accumulate every season at the upper entrance. At the close of navigation last season the dredging had resulted in a depth of 20 feet most of the way through Portage river and a depth of at least 18 feet can be relied upon all the way through the river with relief at many of the bends. During the coming season it is proposed to widen the channel and especially to relieve the bends at cuts 2 and 3 and at Princess point, and to deepen to the full depth of 20 feet at low water datum. A contract has just been made for revetment of the banks along Portage river for a total of about 8,000 feet. With the banks properly protected it is expected that vessels can be allowed to pass through with greater speed than heretofore. A contract is also about to be made, or at least bids received, for widening the upper canal 50 feet, and for enlarging "Lily Pond," the harbor for vessels while waiting for favorable weather.

All this work will make the coming season a very busy one, and vessel men must expect to exercise a great amount of care and patience in passing dredges and outfits for pier and revetment work. With the usual ranges and spar buoys that are established along Portage river, and generally kept in place, a stranger to the channels should have no trouble in passing through safely, at least in the daytime.

SCHOOL FOR OUR YOUNG CONSTRUCTORS.

Whether or not it be apparent on the surface, there is certainly no greater essential to the unimpeded upbuilding of the navy and merchant marine of the United States than the education of a number of bright young men who will be equipped by training to meet all requirements in the line of naval architecture that may possibly arise. In view of this fact, there is much satisfaction in the announcement that the board consisting of Rear Admiral John A. Howell, Professor of Mathematics William W. Hendrickson and Naval Constructor John G. Tawresey, appointed last October to consider the establishment of a school of naval architecture, has reported favorably, and the matter has received the approbation of Secretary Long. The consummation of the project as at present outlined will enable the United States to rank alongside the best maritime nations of the world in this respect and will certainly be a relief from the present dependency upon foreign schools and private institutions in this country.

The board recommends that the course of instruction for the proposed school of naval architecture should extend over three years, each year to be divided into three terms of about four months each; the summer term to be employed in work and observation at navy yards and private establishments and the remainder of the year to be devoted to a thorough course of instruction at the naval academy. The course of study should include the following subjects: Naval construction and architecture, steam engineering, mathematics, applied mathematics and mechanics, physics and chemistry and languages. The course in mathematics, applied mathematics, and mechanics and physics and chemistry should, if possible, be completed in two years, leaving the third year to the course in language and for the professional subjects. The board in its report goes into the subject matter of each course and discusses the method of instruction to be pursued. The latter, it is suggested, should be by lectures delivered at the beginning of the period, the remainder of the time to be devoted to working out problems illustrating the principles involved in the lectures under the direction and with the assistance of the constructor.

It is recommended that the course in the schools should commence with the summer term, which begins about June 1 and extends up to Oct. 1, six weeks of this time being allowed for leaves of absence. The president of the naval academy will be the president of the school, and all questions relating in any way to the course of study should be passed upon by a board of control, consisting of the superintendent, naval constructor in charge, and naval constructor to be designated from those on duty in the bureau of construction and repair, and provisionally the heads of the departments of mathematics, mechanics and steam-engineering at the naval academy. The naval constructor in charge should have the following assistants: A professor of naval architecture with a salary of $2,500 and an assistant professor with a salary of $2,200, the former to supervise the draughting room and assist in instruction and the latter to take immediate charge of the draughting room. Other assistants will be a professor of mathematics, of mechanics and of marine engineering appointed from civil life at a salary of $2,500. It is recommended that during the continuance of the present arrangement of courses for line and engineer divisions at the academy, the cadets who, after graduation, are to be permitted to attend the school of architecture should be selected for this purpose at the end of their second class year. And it is suggested that three cadets a year should be so chosen. The total appropriation necessary for employment of assistants, etc., is $17,500. The conclusions of the board and the reports submitted, are as follows:

"The necessity for proper and adequate training of men for the construction corps is urgent. The privileges previously enjoyed in official schools are no longer available. It is then necessary to establish and develop, under government control in our own country, a school in naval architecture of the highest order. Sound policy and just national pride demand that such school shall reach as quickly as possible a position second to none. Our country does not desire and cannot afford to have its naval architects less thoroughly equipped than those of the leading maritime powers. The successful development of the school, notwithstanding the adoption of the wisest plan and organization will depend almost entirely upon those in charge and upon obtaining a suitable corps of naval constructors. The instructor in charge should be selected from the corps of naval constructors, having regard to his special fitness for the work. He should remain in charge as long as possible and should not be burdened in any way with other duties."

GOVERNMENT WORK FOR LAKE SHIP BUILDERS.

Aside from the vast amount of mercantile tonnage under construction or likely to be contracted for within the near future there is a prosperous outlook in another direction for ship building on the great lakes. Heretofore the construction of several revenue cutters has been the only exception to a confinement of lake ship building to mercantile lines, but now there is some prospect that an agreement of the Anglo-American joint high commission may secure to builders on the great lakes the opportunity to construct torpedo boats and the smaller type of naval vessels. The construction of a gunboat similar to the Marietta of the United States navy to replace the U. S. S. Michigan is assured, and lake ship builders are naturally elated over the prospects for the favorable consideration of a bill introduced in congress, a few days since, providing for an appropriation of $300,000 to begin work on three revenue cutters, to replace the Gresham, Algonquin and Onondaga, built by the Globe Iron Works, Cleveland, and sent to the coast during the war.

The new gunboat, which is thus far known only as No. 16, will be 174 feet on load water line, 34 feet beam, 12 feet draught, 1,000 tons displacement, 1,200 indicated horse power, 200 tons bunker capacity and 14 knots speed. She will have twin screws, driven by two sets of triple expansion engines, making 200 revolutions per minute, steam being supplied from water tube boilers at a pressure of 200 pounds. She will be lighted by electricity and her equipment throughout will be modern in every way. The armament will consist of six 4-inch rapid-fire rifles, four 6 pounders, two 1 pounders and a Colt. Her complement will be 140 men. The bureau of construction and repair of the navy department has prepared preliminary drawings for the vessel.

The U. S. S. Michigan, to which the new gunboat is to serve as successor is herewith pictured in the lock at the Sault Ste. Marie canal, between lakes Huron and Superior. The Michigan with a rated tonnage of 582, and which for fifty years guarded the lakes, was the first iron ship of war built in this country. She was begun in 1842 and launched Dec. 5, 1843. During the Civil war the Confederates made an unsuccessful attempt to capture her. It is expected that the navy department will be prepared shortly to ask for bids on the new gunboat.

The annual meeting of the Aurora Mining Co. at the offices of the company, at Milwaukee, a few days ago, resulted in the election of the following officers: President and treasurer, Charles F. Rand of New York; secretary and counsel, Howard Morris. The other directors of the company, in addition to the officers named, are: James C. Colgate, Charles W. Harkness, New York; E. H. Abbot, Cambridge, Mass.; L. H. Severance, Cleveland; W. J. Olcott, Bessemer, Mich.

U. S. S. Michigan, in Service on the Great Lakes, to be Replaced by Gunboat No. 16.

FRENCH SUBMARINE BOATS.

The secrecy maintained regarding the design and construction of submarine boats now building in France has naturally aroused considerable interest in these vessels. Designs for these submarine craft were selected from a number submitted in competition. M. Lockroy, the French minister of marine, recently visited Toulon to observe the manoeuvres of one of them, the Gustave Zede. The hull of this vessel is more or less like a torpedo in form, so that it can travel on the surface at a fair speed, sinking only when the enemy's position is clear. The chief criticism thus far advanced against the Gustave Zede is that being propelled by electricity stored in secondary batteries, she could have only a small range of action, and could, in fact, scarcely leave the ports. For this reason the French engineers are giving particular attention, just at present, to the Narval, the second of the six submarine boats now under construction, and which is expected to reach completion within two or three months.

The Narval is from a design sent in by M. Laubeuf, a marine engineer. The vessel will be propelled at the surface by steam and under water by electricity. The small engine not only works the propeller but operates a dynamo, which charges secondary batteries. When the boat is ready to go under water the funnel is unshipped and propulsion furnished by electrical power. The Narval will, it is claimed, carry sufficient fuel to steam 252 miles in 24 hours at 12 knots, or 624 miles in 78 hours at 8 knots. Under water it will do 25 miles at eight knots.

Capt. P. L. Millen, who for the past two years has commanded the big wrecking tug Favorite, has resigned, and will be succeeded by Capt. Mart Swain, who formerly had charge of that boat. Capt. Millen has made an enviable record with the Favorite, but prefers other work. Capt. Swain has been out of the harness, but feels that there is a good deal of youthful blood in him yet, and is not at all averse to appearing again in the role of wrecker. Up to two years ago he had been at work on the lakes since 1867, and in that period released more than 200 vessels of all classes, and established his fame all around the lakes. He has more than once released boats given up as total wrecks, notably the Albany and Neosho, and today many a fine steamer and schooner is afloat and earning money that but for his efforts would be rotting her hull away on some lake shore.—Detroit Free Press.

As an indication of the highly prosperous condition of the iron industry it may be noted that one of the leading journals devoted to iron and steel says this week that constantly growing number of makers in many lines have either withdrawn prices altogether or made high quotations in order to turn away buyers. Still, thus far there has been little speculation, and the industry is kept well in hand.

The two freight steamers for which the Detroit Dry Dock Co. is about to put down keels at Wyandotte, Mich., will be duplicates, 440 feet over all, 414 feet keel, 50 feet beam and 28 feet deep. Their triple expansion engines will have cylinders of 22, 35 and 58 inches diameter with a common stroke of 42 inches. Each vessel will have two Scotch boilers. These two steamers, as well as the package freighter building at the yard of the Union Dry Dock Co., Buffalo, for the Western Transit Co., will be fitted with the Howden system of hot draft, making the total of Howden installations on the great lakes sixty-one of 78,010 horse power. In a recent letter to the Dry Dock Engine Works of Detroit, Mr. James Howden, inventor of the draft apparatus, says that on Jan. 1 of this year the number of installations throughout the world was 863 and the horse power 2,424,200.

The Manufacturers' Advertising Bureau, 126 Liberty street, New York city, turns the second decade of its existence with the close of the present year. Mr. Benj. R. Western, the original and present proprietor, established this unique business in 1879, and his success in the particular work he undertakes for his clients is widely recognized and taken advantage of by many of the representative manufacturers of the country. Its system furnishes a practical relief to its clients and has brought the highest praise and commendation of conservative business men. The twenty years past have established the Manufacturers' Advertising Bureau as one of the solid institutions of the country. Copies of the booklet, "Advertising for Profit," issued by this bureau, may be had for the asking, by inclosing a business card.

Underwriters are evidently paving the way for higher premiums on all kinds of marine insurance. Dispatches from New York announce that all the marine companies, following the initiative taken by the British & Foreign, have advanced rates on cargo as well as hull business, and will certainly demand higher rates on the great lakes when preparations for another year's business are made, a few weeks hence. It is said that the advance in ocean business, which amounts in some lines to full 20 per cent., is not due to associated action of any kind, but to a general determination on the part of the big companies, in England as well as this country, to bring about improvement in the business, especially on account of the heavy losses of the past fall.

Following the recommendation in President Harrison's last message, that steps be taken to secure for private property at sea exemption from seizure or destruction in time of war, the house committee on foreign affairs has directed its chairman to report to congress a concurrent resolution authorizing the president to enter into correspondence with foreign governments with a view to securing the adoption of the principle as a doctrine of international law.

Extra copies of this issue of the Marine Review containing full report of the Lake Carriers' meeting can be supplied at the publication office.

U. S. Engineer Office, Duluth, Minn., Jan. 16, 1889. Sealed proposals for setting in place concrete footing blocks, and building in place concrete superstructure on south pier Duluth Ship Canal, and for building and piling concrete footing blocks for north pier, Duluth Ship Canal, will be received here until noon Feb. 16, 1899, and then publicly opened. Information furnished on application. Clinton B. Sears, Major, Engineers. Feb. 9

U. S. ENGINEER OFFICE, Duluth, Minn., Jan. 3, 1899. Sealed proposals for dredging in Portage Lake Ship Canals, Keweenaw Point, Mich., will be received here until noon, Feb. 3, 1899, and then publicly opened. Information furnished on application. Clinton B. Sears, Major, Engrs. Jan. 26.

U. S. ENGINEER OFFICE, Duluth, Minn., Jan. 1, 1899. Sealed proposals for building substructure for north pier, Duluth Ship Canal, will be received here until noon, Feb. 1, 1899, and then publicly opened. Information furnished on application. Clinton B. Sears, Major, Engrs. Jan. 26.

Marine Boilers For Sale.

Two fire-box boilers, 8½ by 16 feet; in good condition; allowed 100 pounds steam. For further particulars address E. G. CROSBY & CO., Muskegon, Mich. Feb. 16

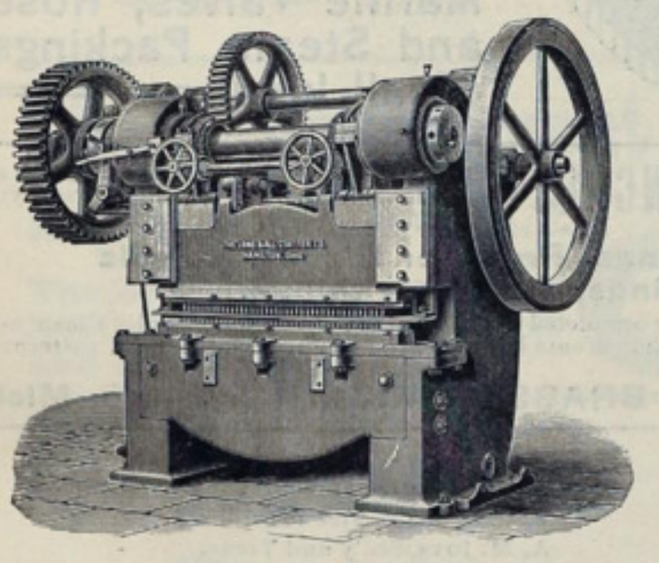
JAMES McKAY & CO.

Manufacturers of all kinds of

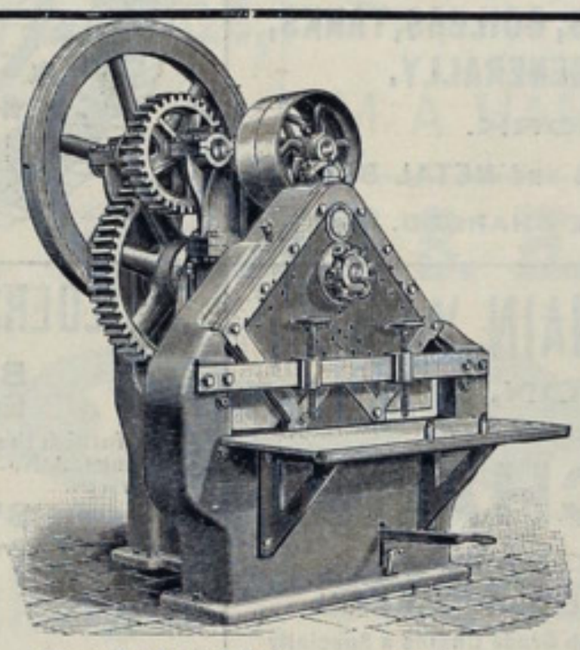
High Grade Boom, Rafting, Toggle, Marine and Swedish **IRON CHAINS.**

Write for Prices. PITTSBURG, PA.

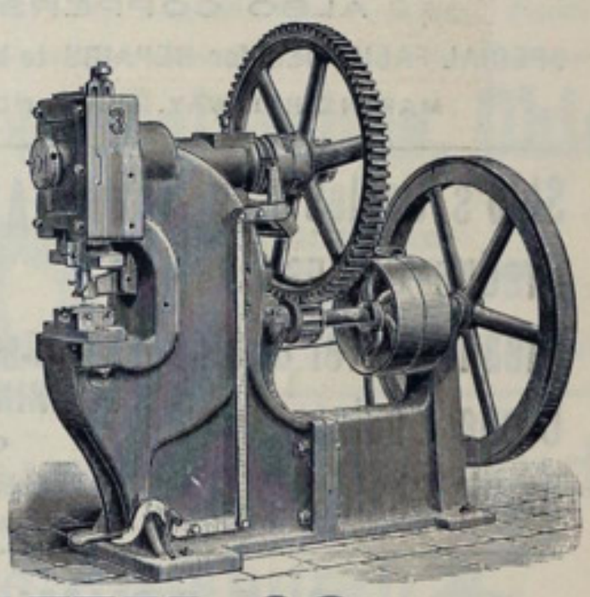
LABOR SAVING..... POWER SHEARS



Belt, Steam or Electric Driven.



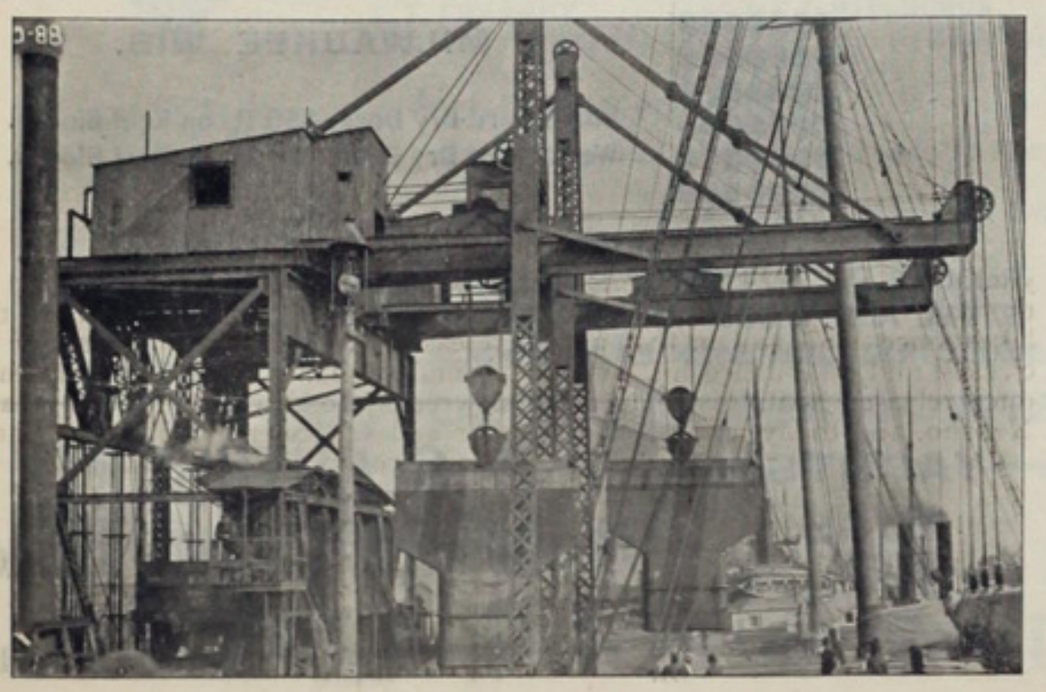
Manufactured by



Belt, Steam or Electric Driven.

POWER PUNCHES

The LONG & ALLSTATTER CO. HAMILTON, O.



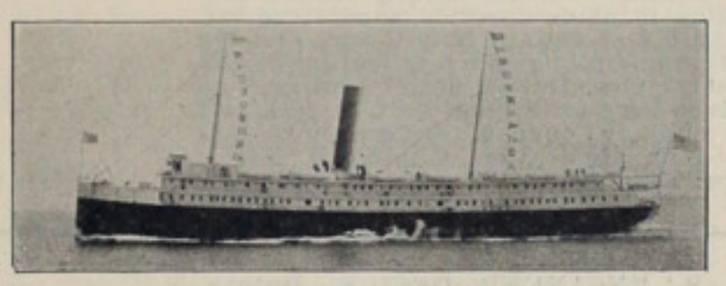
The Hulett Car Dumping Machine

FOR HANDLING COAL AND ORE.
LEAST POSSIBLE BREAKAGE
OF COAL. RAPID HANDLING.

Webster, Camp & Lane Machine Co.

AKRON, OHIO.

ROACH'S SHIP YARD.



DELAWARE RIVER
IRON
SHIP-BUILDING & ENGINE WORKS,
CHESTER, PA.

Builders of Steamships and Marine Machinery.

SHIP-BUILDING IN ALL ITS BRANCHES.

New York Office, Morgan Iron Works, Foot East Ninth St

Newport News Shipbuilding & Dry Dock COMPANY.

WORKS AT NEWPORT NEWS, VA.
(On Hampton Roads.)

Equipped with a Simpson's Basin Dry Dock capable of docking a vessel 600 feet long, drawing 25 feet of water, at any stage of the tide. Repairs made promptly and at reasonable rates.

SHIP AND ENGINE BUILDERS.

For estimates and further particulars, address

C. B. ORCUTT, Pres't,
No. 1 Broadway. New York.

The Pusey & Jones Company,

WILMINGTON, DELAWARE.

Builders of IRON AND STEEL STEAMERS, STEAM YACHTS, TOW BOATS, MARINE ENGINES, BOILERS, TANKS, AND OF HEAVY MACHINERY GENERALLY.

ALSO COPPERSMITH WORK.

SPECIAL FACILITIES for REPAIRS to both WOODEN and METAL BOATS.

MARINE RAILWAY. NO WHARFAGE CHARGED.

Ship's Cables
Dredge Chains
Steam Shovel Chains
Crane Chains
Block Chains

LEBANON CHAIN WORKS,

LEBANON, PA.

MANUFACTURERS OF

HAND-MADE AND MACHINE-MADE **CHAINS**

OF ALL GRADES.

WE MANUFACTURE OUR OWN IRON.

All our Chains are tested. High Grade Chains a Specialty

THE CRUMLISH FORGE

For Rivet Heating.

USED BY THE LEADING

Ship Builders, Bridge Building and Structural Concerns.

CRUMLISH FORGE CO.

Send for Circular. BUFFALO, N. Y.

The Bessemer Steamship Company

Solicits Catalogues, Prices and Discounts from manufacturers and wholesale dealers in Ship Machinery, Brass Goods, Rope, Paints, Asbestos, Packing, Hose, Furniture, Piping, Glass and Crockery, Tinware, Ranges, Carpeting, Bedding, Life-preservers, Rafts and Boats, Engineers' Supplies and Tools, Carpenters' Tools, Electric Supplies, Lamps, Grate Bars, Castings, etc., etc., etc.

ALSO QUOTATIONS from Market men and Grocers on the Lakes for Provisions and Meat, best quality only.

CATALOGUES without quotations are not wanted.

ALL GOODS except provisions to be delivered in Cleveland.

Address L. M. BOWERS, General Manager,
CLEVELAND, OHIO.

INCORPORATED 1794.

Insurance Company of North America.

CAPITAL, Paid up in Cash, - - $3,000,000.00
ASSETS, - - - - - 10,173,488.90

CHARLES PLATT, President.
EUGENE L. ELLISON, Vice-President.
BENJAMIN RUSH, Second V.-Pres't.
GREVILLE E. FRYER, Sec'y & Treas.
T. HOWARD WRIGHT, Marine Secretary.
JOHN H. ATWOOD, Assistant Secretary.

Lake Marine Department. GEORGE L. McCURDY, M'gr, CHICAGO, ILLS.

Chas. E. & W. F. Peck,

58 William St., NEW YORK CITY. Royal Insurance Building, CHICAGO, ILL.

C. T. BOWRING & CO.,
5 and 6 Billiter Avenue, E. C., LONDON, ENG.

INSURANCE

BROWN & CO., . . 202 Main Street, Buffalo, N. Y.
PARKER & MILLEN, 15 Atwater St., W., Detroit, Mich.
J. G. KEITH & CO., 138 Rialto Building, Chicago, Ill.
LA SALLE & CO., Board of Trade Bldg., Duluth, Minn.

Are prepared to make rates on all classes of Marine Insurance on the Great Lakes, both CARGOES and HULLS.

Great Lakes Register,

Combined and issued in connection with BUREAU VERITAS International Register of Shipping.

F. D. HERRIMAN, Surveyor-General, Chicago, Ill.

THE MANHATTAN RUBBER M'F'G CO.

No. 212 Champlain Street,
CLEVELAND, OHIO.

W. D. ALLEN, AGENT,
151 LAKE STREET, CHICAGO, ILL.

Marine Valves, Hose and Steam Packings of all kinds.

BUILDERS OF LAUNCHES AND OTHERS needing Cast Brass, Bronzes and similar metals. Want to hear from you. Want to furnish you with

Boat Trimmings, Propeller Blades, Wheels Engine Bearings, and other things.

Can furnish the rough castings or completed parts, polished or nickel plated. Clean solid castings, A No. 1 quality. Phosphor bronze bearings a specialty. Send sample, patterns or drawings.

STANDARD BRASS WORKS, Kalamazoo, Mich.

W. E. FITZGERALD, President.
F. C. STARKE, Vice President.
A. M. JOYS, Sec'y and Treas.

MILWAUKEE DRY DOCK COMPANY

MILWAUKEE WIS.

South Yard Dry Dock, 450 ft. on Keel Blocks.
West Yard Dry Dock, 312 ft. on Keel Blocks.

RUDDER PIT TO UNSHIP RUDDERS IN EACH DOCK.
STEEL AND WOOD REPAIRS A SPECIALTY.
ELECTRIC LIGHTS ON EACH DOCK.

YACHTS,
TUGS,
LAUNCHES,
REPAIRS.

A. G. CUTHBERT,

Naval Architect and Builder.

Yard: 92d St. and Calumet River.

Office: 141 S. Water St. CHICAGO, ILL.

The Roberts Boiler Co.

Have built about 1000 BOILERS TO DATE for

Launches, Yachts, Passenger and Freight Steamers, Dredges, Tugs, Stern-Wheelers, Canalers; also for Navy Department, War Department, Treasury Department, Light-House Board and Revenue Cutter Service; also for N. Y. Dock Department and U. S. Supervisor, Harbor of N. Y.

SAFETY AND ECONOMY.

Never killed a man or had a serious accident. $250,000 capital. Works covering 29,000 square feet of ground. Never had a boiler returned on account of dissatisfaction. Every Boiler Warranted. All material made specially for our use. All boilers tested at 500 pounds hydrostatic pressure and 250 pounds of steam before shipping. Workmanship strictly first-class. All joints screwed and reliable. No expanded joints. State your requirements and we will furnish specifications. Correspondence solicited.

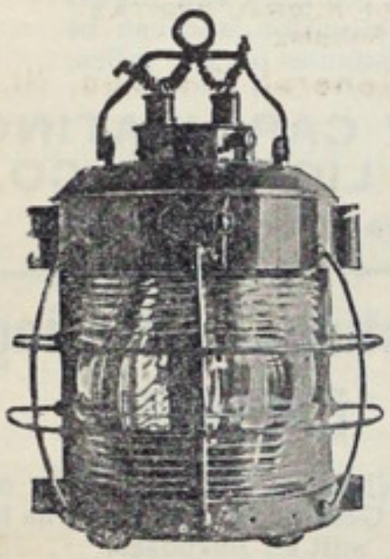
THE ROBERTS SAFETY WATER TUBE BOILER CO.,
39 and 41 Cortlandt Street, New York City.
Works, Red Bank, N. J.

M. W. Fogg.

MANUFACTURER OF
HAIR AND FELT
MATTRESSES, CUSHIONS
AND BEDDING.

18 Fulton St., Cor. Front,
NEW YORK CITY, U. S. A.

MARINE LAMPS

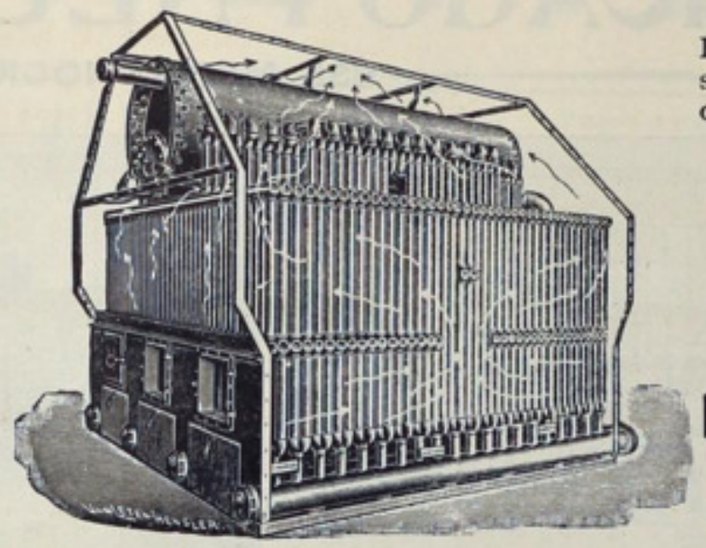


Oil and Electric Equipment for Steamships, Yachts, etc.
Signal Lights, Saloon Fixtures, Cabin Lamps, Lanterns, etc.

Wm. Porter's Sons,

271 Pearl St., NEW YORK CITY.

THE "TAYLOR" YACHT BOILER



Has held the record three seasons on the fastest yacht on the great lakes.

Guaranteed against Rupture of Tubes.

Will not Prime in the Roughest Sea.

MANUFACTURED BY

Detroit Screw Works,

FOOT OF REOPELLE ST.,
DETROIT, MICH., U. S. A.

THOS. DREIN & SON,

TATNALL AND RAILROAD STS., WILMINGTON, DEL.

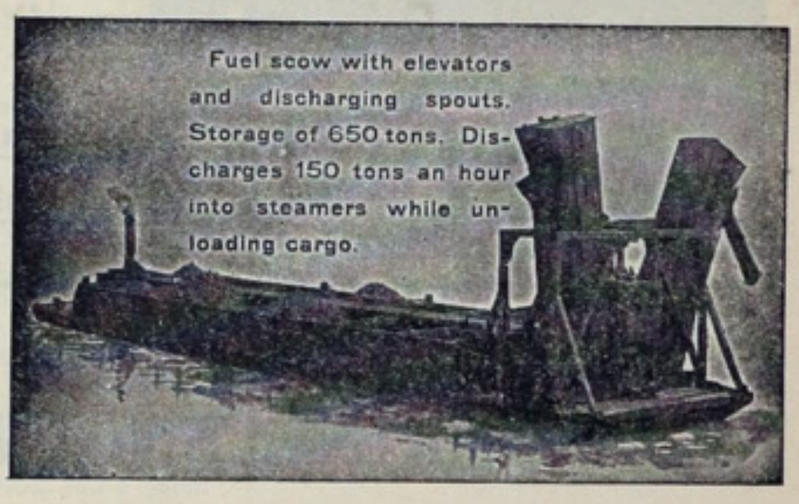
Builders of Metallic Life Boats and Rafts, Yachts and Pleasure Boats, Life Preservers. Outfit for Lake Steamers a Specialty

Steamboat Fuel at Ashtabula.

LARGE SUPPLIES OF BEST QUALITY.

Lighter

Carrying Different Grades at all Times.

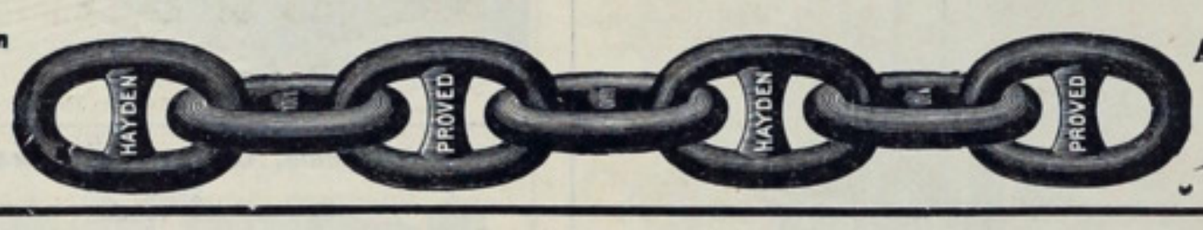

Fuel scow with elevators and discharging spouts. Storage of 650 tons. Discharges 150 tons an hour into steamers while unloading cargo.

M. A. HANNA & CO.,

Miners and Shippers.
Main Office, Perry-Payne Bldg., Cleveland.

Chain Department ✻ P. HAYDEN S. H. CO. ✻ Columbus, Ohio.

Our Chain in use on the Largest Steamers on the Lakes:
The Zenith City, Victory, North West and North Land, and many others.



All kinds of Chain—Stud and Close Link, Cable Chains.
Write for Prices.

Steamboat Fuel at Chicago.

THE Y&L

Youghiogheny and Lehigh Coal Co.

J. T. CONNERY, Manager.
ARCHIE J. HITCHCOCK, Dock Sup't.

FUEL DOCKS: No. 1, Michigan Slip and Basin. 'Phone 3046. Main.
No. 2, N. Halsted St. Bridge. 'Phone 773 North.

FUEL LIGHTER: Equipped with 125 2-ton Buckets for Fueling Anywhere in Harbor.

MAIN OFFICE: 1238-1242 Chicago Stock Exchange Building.

Long Distance Telephone, Main 5049. 110 LA SALLE STREET.

Steamboat Fuel at Cleveland.

THE P&C

The Pittsburgh & Chicago Gas Coal Co.

J. A. DONALDSON, Manager.
N. J. BOYLAN, Fuel Manager.

FUEL DOCKS: 'PHONE, WEST 190. No. 1, River Bed, through Valley R. R. Bridge. No. 2, Main River, Foot of West River St.

FUEL LIGHTER: 300 Tons Capacity; Fuel Anywhere in the Harbor.

OFFICE: 420 AND 421 PERRY-PAYNE BUILDING.

TELEPHONE, MAIN 1888.

WE PRODUCE OUR YOUGHIOGHENY COAL, AND GUARANTEE QUALITY.

Photographs of Lake and Ocean Ships.

We have negatives of nearly all large ships on the lakes. Sizes range from 7½x9 inches to 11x14 inches; price from 75 cents to $1.25. The large prints, 11x14 inches picture size, are the finest ever made on the lakes.

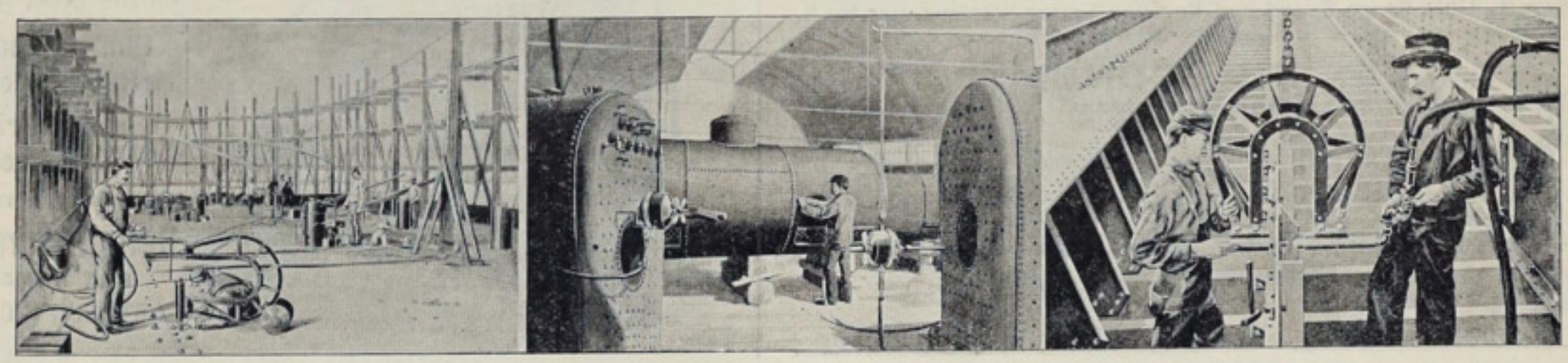
MARINE REVIEW,
418-419 Perry-Payne Bldg., Cleveland.

SHIP YARD

CHICAGO PNEUMATIC TOOL CO.,

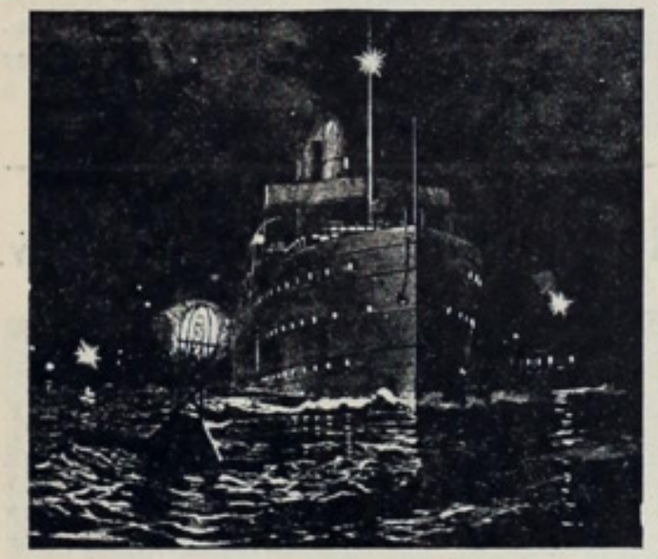
635 MONADNOCK BLOCK CHICAGO ILL.

EQUIPMENT



PNEUMATIC HAMMERS FOR CAULKING AND CHIPPING, PISTON AIR DRILLS FOR DRILLING AND REAMING, PNEUMATIC RIVETERS.

MACHINES GUARANTEED ONE YEAR AGAINST REPAIRS, and TOOLS SENT ON TEN DAYS' TRIAL Subject to Approval. New York Office No. 112 Liberty St., Beard Bldg.



Pintsch Gas Lighted Buoys

Adopted by the English, German, French, Russian, Italian, and United States Light House Departments, for Channel and Harbor Lighting; over 800 gas buoys and gas beacons in service.

Burn Continuously from 80 to 365 days and nights without attention, and can be seen a distance of six miles.

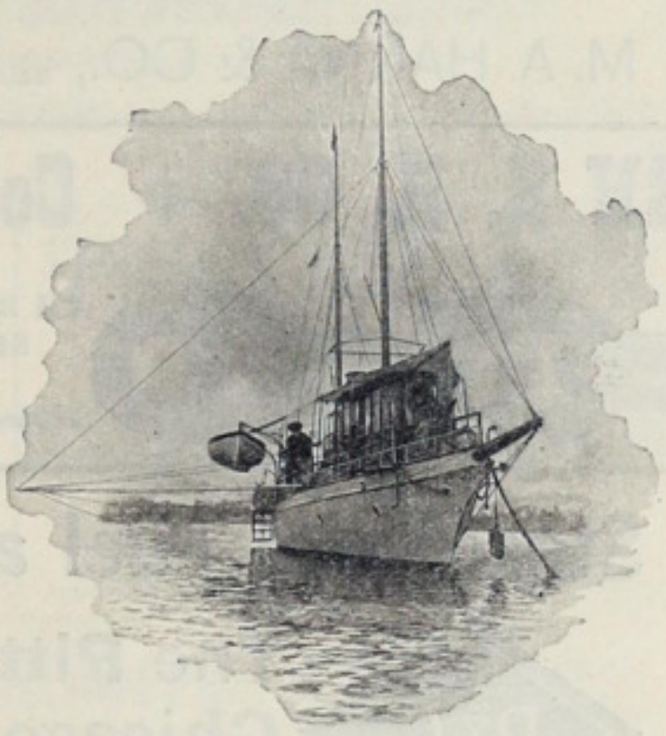
Brilliant and Steady Illumination.

Economical and Reliable in Operation.

Controlled by the **SAFETY CAR HEATING AND LIGHTING CO.,**
160 Broadway, New York City.

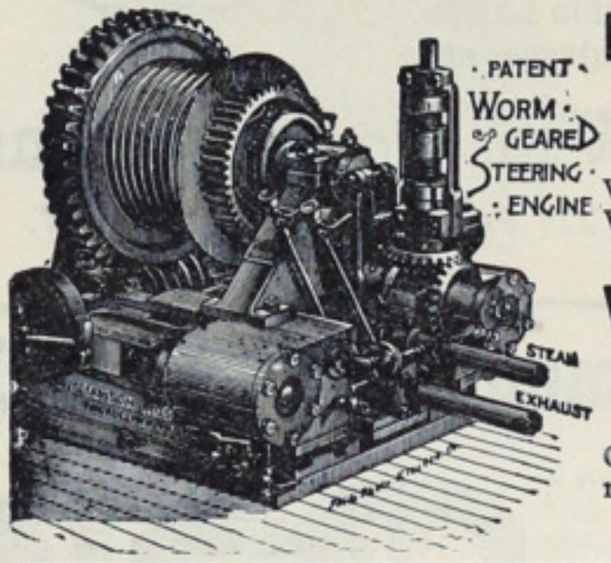
HIGH CLASS STEAM YACHTS,
MARINE ENGINES,

Seabury's Water Tube Boilers,
AND
THE ONLY
NAPHTHA LAUNCH,
GAS ENGINE & POWER CO.
AND



CHARLES L. SEABURY & CO.,
Consolidated,
MORRIS HEIGHTS, NEW YORK CITY.

Send 10c. stamp for catalogue.



Hoisting and Steering ENGINES.

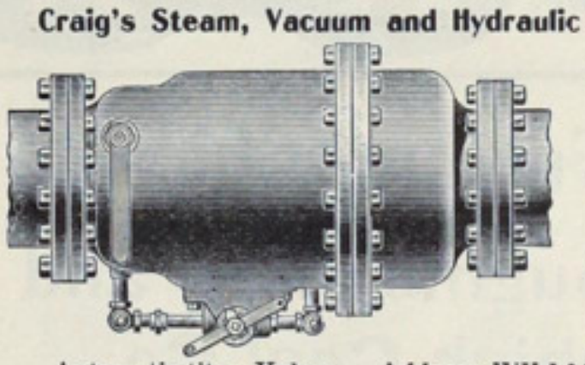
With either Frictional, Spur or Worm Gear of various patterns to suit all purposes.

Williamson Bros.

Richmond and York Sts.
PHILADELPHIA, PA.

Over 150 of the largest and most modern lake steamers have our steerers.

Craig's Steam, Vacuum and Hydraulic Specialties, consisting of Patent



Automatic Stop Valve.

IMPROVED SAFETY QUICK-ACTION AUTOMATIC STOP VALVES, for Pipes of all kinds under Pressure, for Steam, Water or any other fluid.

IMPROVED AUTOMATIC EXHAUST RELIEF VALVES, for Condensing and Non condensing Engines, Marine or Stationary.

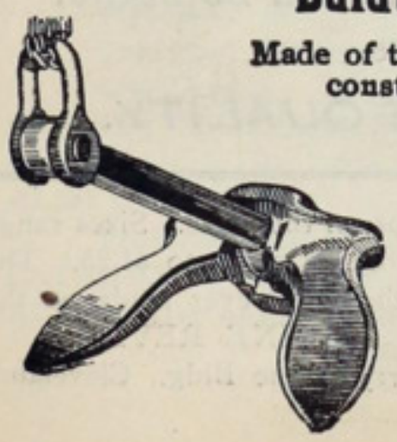
IMPROVED AUTOMATIC JET CONDENSING APPARATUS, for all kinds of Steam Engines.

IMPROVED HEATING AND CIRCULATING APPARATUS for Marine Boilers.

Address WILLIAM CRAIG, 42 Cortlandt St., New York.

Fred'k Baldt, President. W. M. Gelston, Vice President
W. S. Bickley, Sec'y and Treas.

Baldt Patent Stockless Anchor.



Made of the finest quality of open-hearth steel and constructed on the ball and socket principle.

Many points of superiority over ordinary Stockless Anchors.

BALDT ANCHOR COMPANY,
CHESTER, PA.
WALTER MILLER, Western Reserve Bldg., Cleveland, Ohio,
Representative for the Great Lakes.

☞ New catalogue containing valuable tables sent on application.

THE LATEST! THE BEST!

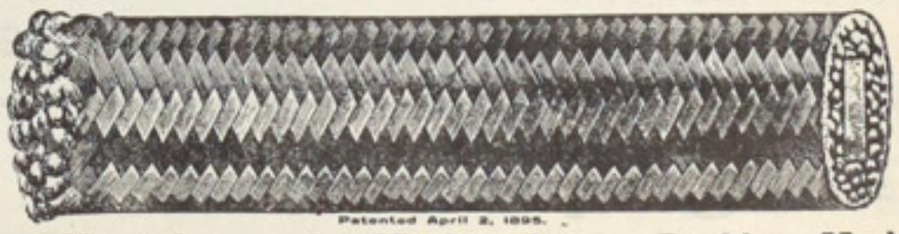
"RUBBERBESTOS"

A Perfect Combination of Asbestos and Rubber.

A Combination Approved by all Practical Engineers, and is a NEW DISCOVERY in the MANUFACTURING of SHEET PACKING.

THE HIGH PRESSURE PACKING

"METALBESTOS"



Patented April 2, 1895.

The Most Successful Marine Steam Packing Made!

Made of ASBESTOS and covered with a SOFT METALLIC WIRE.
It Cannot Burn, Char or Blow Out. Try It! It Will Save You Lots of Trouble!
SEND FOR SAMPLES.

A. W. CHESTERTON & CO., 49 India St. BOSTON, MASS

☞ If you use Square Flax send to us for a sample of our new brand. The "Devereaux Special." It will interest you. ☜